AD-A143 315

AIR COMMAND
AND
STAFF COLLEGE

DTIC
ELECTE
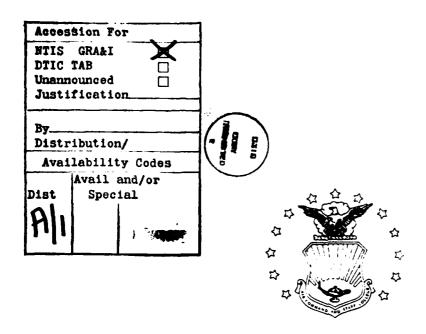JUL 24 1984
D

84 07 23 091

DISCLAIMER

The views and conclusions expressed in this
document are those of the author. They are
not intended and should not be thought to
represent official ideas, attitudes, or
policies of any agency of the United States
Government. The author has not had special
access to official information or ideas and
has employed only open-source material
available to any writer on this subject.

This document is the property of the United
States Government. It is available for
distribution to the general public. A loan
copy of the document may be obtained from the
Air University Interlibrary Loan Service
(AUL/LDEX, Maxwell AFB, Alabama, 36112) or the
Defense Technical Information Center. Request
must include the author's name and complete
title of the study.

This document may be reproduced for use in
other research reports or educational pursuits
contingent upon the following stipulations:

    -- Reproduction rights do <u>not</u> extend to
any copyrighted material that may be contained
in the research report.

    -- All reproduced copies must contain the
following credit line: "Reprinted by
permission of the Air Command and Staff
College."

    -- All reproduced copies must contain the
name(s) of the report's author(s).

    -- If format modification is necessary to
better serve the user's needs, adjustments may
be made to this report--this authorization
does not extend to copyrighted information or
material. The following statement must
accompany the modified document: "Adapted
from Air Command and Staff Research Report
___(number)___ entitled ___(title)___ by
___(author)___ ."

    -- This notice must be included with any
reproduced or adapted portions of this
document.

REPORT NUMBER   84-2225

TITLE   DETERMINATION OF FACTORS AFFECTING PERFORMANCE AND
PRODUCTIVITY IN AN ENGINEERING/DESIGN ENVIRONMENT
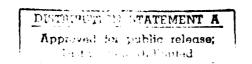
AUTHOR(S)   MR. RALPH JOSEPH ROSALES, JR.

FACULTY ADVISOR   CAPT JANICE M. HIGHTOWER, USAF

SPONSOR   SAN ANTONIO REAL PROPERTY MAINTENANCE
AGENCY, ATC

Submitted to the faculty in partial fulfillment of
requirements for graduation.

AIR COMMAND AND STAFF COLLEGE
AIR UNIVERSITY
MAXWELL AFB, AL   36112

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 84-2225	2. GOVT ACCESSION NO. *A143 313*	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* DETERMINATION OF FACTORS AFFECTING PER- FORMANCE AND PRODUCTIVITY IN AN ENGINEERING/DESIGN ENVIRONMENT		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR*(s)* Ralph J. Rosales, Jr., Mr., ATC,		8. CONTRACT OR GRANT NUMBER*(s)*
9. PERFORMING ORGANIZATION NAME AND ADDRESS ACSC/EDCC, MAXWELL AFB AL 36112		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS ACSC/EDCC, MAXWELL AFB AL 36112		12. REPORT DATE MARCH 1984
		13. NUMBER OF PAGES 108
14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)*		15. SECURITY CLASS. *(of this report)* UNCLASSIFIED
		15a. DECLASSIFICATION DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT *(of this Report)*

STATEMENT "A"

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*
Presents an analysis of RPMA employee attitudes and perceptions
about the leadership and management of the RPMA organization. The
OAP is used as the survey instrument to assess the Organizational
Climate within the Engineering and Construction Management Division
of an RPMA. Employee attitudes are analyzed to determine leader-
ship and management areas within RPMA requiring improvement.

DD ₁ FORM JAN 73 1473   EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

PREFACE

Within all organizations there exist opportunities for constructive change, e.g., improving employee motivation, increasing management effectiveness, and enriching the quality of work life. In order to realize the full potential of these opportunities not only is recognition of the opportunity necessary, but more importantly, is the capability of selecting the "best fit" of available strategies to bring about a change that is constructive. The selected strategy, in addition to being the best fit, must be based on discernable criteria, possessing validity and reliability. These postulations are the bases for this study. By employing an already tried and proven attitudinal survey-based approach prior to a planned change within an organization the capability of selecting the best fit is enhanced. This study attempts to generalize employee perceptions towards their organization and through inductive reasoning offer a basis for strategy selection to maximize the effects of the constructive change being sought.

This study delves into the structure of a Real Property Maintenance Activity, its people and their perceptions of the work environment. It attempts a critical analysis not for the purpose of censure but rather to introduce one method that can precede constructive change in order to realize the full potential of the change.

The writer acknowledges the contributions of management within San Antonio Real Property Maintenance Agency and the opportunity to conduct this study. In addition, the Leadership and Management Development Center and its staff proved invaluable throughout the preparation of this study. Finally, this study is being submitted to the faculty of Troy State University at Montgomery in partial fulfillment of the requirements for the Masters of Science in Personnel Management Degree.

ABOUT THE AUTHOR

Mr. Ralph J. Rosales, Jr. is currently employed by San Antonio Real Property Maintenance Agency (SARPMA) as Deputy Chief of the Engineering Design Branch (DEEE).

In his capacity as Supervisory General Engineer (GS-801-12) he is responsible for administrating the personnel management functions of DEEE's professional, technical, and clerical employees. Previous experience includes Program Manager for Architect-Engineer Indefinite Quantity Contracts, Senior and Staff Architect positions, and Civil and Structural Engineer-In-Training positions.

Mr. Rosales graduated from the University of Texas at Austin in 1971, earning a Bachelor of Science in Architectural Engineering. He has attended numerous continuing education courses in the areas of Contract Preparation, Negotiations, Management Development, Engineering, and Business and Real Estate Law. In addition, Mr. Rosales will complete his current two-fold academic endeavors of Air Command and Staff College and a Masters of Science in Personnel Management by June 1984.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

EXECUTIVE SUMMARY

Part of our College mission is distribution of the students' problem solving products to DoD sponsors and other interested agencies to enhance insight into contemporary, defense related issues. While the College has accepted this product as meeting academic requirements for graduation, the views and opinions expressed or implied are solely those of the author and should not be construed as carrying official sanction.

"insights into tomorrow"

REPORT NUMBER 84-2225

AUTHOR(S) MR. RALPH J. ROSALES, JR.

TITLE DETERMINATION OF FACTORS AFFECTING PERFORMANCE AND PRODUCTIVITY IN AN ENGINEERING/DESIGN ENVIRONMENT

I. <u>PURPOSE</u>: To establish the validity for surveying attitudinal responses as a measure of organizational climate and through analysis of the response determine the leadership and management factors to enhance performance and productivity.

II. <u>PROBLEM</u>: Although changes to the work environment are frequently made, without some measure of what the attitudes (of employees within the work environment), are these changes can result in creating destructive motivational conditions rather than constructive motivational conditions.

III. <u>DATA</u>: The Organizational Assessment Package has been administered to RPMA employees establishing an attitudinal base of employee perceptions. By surveying employee perceptions and analyzing those perceptions in the context of organizational climate a measure of organizational effectiveness can be determined. Those areas hindering organizational effectiveness can then be determined and changes implemented to improve the effectiveness.

CONTINUED

IV. <u>CONCLUSION</u>: The Organizational Assessment Package can and does measure organizational climate. Analysis of the attitudinal responses does pinpoint areas where improvements in leadership and management can be made to increase the effectiveness of the organization.

V. <u>RECOMMENDATION</u>: Application and analysis of the responses from the Organizational Assessment Package must be used by management prior to making any major change in its present methods of operation. By using this management tool together with judgement and experience constructive changes can result, improving the work environment and increasing the motivation of employees to perform and produce.

Chapter One

INTRODUCTION

Productivity in organizational work settings can be
increased by many methods. **Accommodation** - improving
the match between worker characteristics and job
requirements - is the process common to all such
methods. On the organizational side, equipment may be
designed differently, jobs may be changed, patterns of
work flow may be restructured, or control and reward
systems changed. On the individual worker's side,
improved matching may be accomplished by training,
selection and job placement, vocational counseling, or
team development. Whether one or many of these
accommodating methods is used, the starting point must
be an evaluation of human capability, assessed in the
context set by circumstances of particular work
settings. (Dunnette & Fleishman, 1982, p. 1)

Over the years a great many research studies have concerned

themselves with evaluating human capability - in the context of

motivation. For example, in the content motivational theories --

Maslow's need hierarchy, Herzberg's two factors, and McClelland's

three cultural needs -- "the focus is directed towards factors

within the . . . [employee]. . . that energize, direct, sustain

and stop behavior." (Gibson, Ivancevich & Donnelly, 1982, p. 82)

Each of these theories conclude that how employees are motivated

and what motivates employees will directly influence their

performance. Additionally, studies show that employee

perceptions about their work environment and their role in it

also directly bear on their ability to perform. Therefore, in

order to affect performance, all levels of management must

concern themselves with employee perceptions towards the organization, its management and the employees' role in it. By focusing on employee perceptions, management is better able to improve the **accommodation** resulting in a higher level of performance. Prior to attempting improvements or constructive changes to either the organizational side or the employees' side of accommodation some measure of employees' perceptions is necessary. This preliminary measure of employees' perceptions or attitudes provides a basis to change the work environment and contributes to a more positive **accommodation**. In addition to the studies dealing with motivation there exists boundless research on how to measure motivation and its effects on performance. The purpose of this study is not to retheorize the already tried and accepted theories of measuring employee motivation. Rather, the attempt is to demonstrate a mechanism or management tool that can be used periodically to measure employee perceptions and (through an analysis) forecast how these perceptions directly impact on performance within the context of the employees' work environment. The key to using this management tool, in order to affect the **accommodation** Dunnette speaks of, depends not only on the measurement but also on the analysis of the employees' perceptions of their work environment. For our purposes, these perceptions of work environment will be characterized as **"Organizational Climate"**. Organizational climate is defined by Litwin and Stringer (1968) as a concept describing the quality of the organizational [work] environment

2

subjectively perceived or experienced by the organization's members (p. 29). To measure organizational climate the writer has selected a survey instrument known as the Organizational Assessment Package (OAP). The OAP is presently used by the Leadership and Management Center, located on Maxwell AFB, AL, in its staff work for the Air Force to assist government agencies in their efforts to improve performance. Further qualification of the OAP as the survey or measurement instrument will be presented in Chapter Three. This study will focus on measuring the attitudinal responses and subsequently analyzing the responses of the professional/technical staff of a Real Property Maintenance Activity or RPMA. RPMA employee responses and the analysis of those responses will form the data base from which to develop strategies the organization can employ to affect employee motivation and performance.

NEED FOR THE STUDY

Within the increasingly changing work environment, managers are continually challenged to motivate employees and increase production. Adding to this complex challenge is an evolving change in work values of the employees. Employees are identifying less with their work role and are more concerned with managing their own work environment. The effectiveness of employee participation in managing themselves is evidenced by an article that appeared in Research Institute of America, Personal Report for the Executive, dated December 27, 1983. In this article the point was made that, prior to some innovative changes

3

in employee participation, low morale, low motivation and low productivity existed throughout a manufacturing plant. Using foreign management techniques the plant and its employees made a complete turnaround and are now in an upswing in employee motivation and production. This article also states that the New York Times reported:

> Workers and managers alike agreed that the key to success has been its management philosophy of deemphasizing hierarchy and authoritarianism. (This approach) seems to have won the workers' trust and because it has, [the company] is able to put forth its policies and win acceptance for them. (p. 1)

Although this may not be the only solution it does point to the impact employee participation can make in an organizations' effectiveness. The article continued with some challenges that must be met by management in order to be successful in whatever solution they chose to employ. The challenges as presented in the article are:

a. Do people know each other as well as they should? How acquainted is management with its workforce and how acquainted is the workforce with each other?

b. Is management viewed as deserving? What is the employees' perception of its immediate, secondary and top management? Do these perceptions effect employee production?

c. Is the workforce treated with respect? Do workers have a say in how they are to perform? Are they consulted prior to operational policies being implemented? Do they view themselves as part of the company or simply just work there?

The crux of these challenges is simply this - by assessing

4

the employee's perceptions of his/her work environment together with their perception of the management of this environment - motivation and production can be affected.

This study will not attempt to justify the changing work environment or the degree of employee participation in it. Rather, the attempt will be made to evaluate the organizational climate of RPMA through an OAP assessment and describe what factors within the RPMA are vital for improved productivity and performance.

STATEMENT OF THE PROBLEM

Specifically, this study will survey the engineers, architects, and technicians within the RPMA activity known as San Antonio Real Property Maintenance Agency or SARPMA. SARPMA operates under the concept of an industrial fund activity as defined in Department of Defense Directive (D) 7410.4. Simply put, an industrial fund activity pays for all resources and services rendered to its "clients" (Sailer, 1983, p. 35). SARPMA's major clients include Kelly Air Force Base, Lackland Air Force Base, Randolph Air Force Base, Brooks Air Force Base, and Fort Sam Houston, all located in the San Antonio Texas area. "In theory, SARPMA is a government contractor and, like all contractors, is concerned with his profits and losses" (Sailer, 1983, p. 35). The two primary resources affecting this profit and loss statement (for an RPMA activity) are people and supplies. Should problems be allowed to fester and spread without corrective actions in either of these two primary

5

resources, they will impact directly on the effectiveness and efficiency of the organization in serving its clients. Sailer (1983) cited people and supplies as the major difficulties SARPMA faced during its inception on October 1, 1978. The supply problem will not be addressed in the study, only the people problem. The people problem encompassed a variety of issues such as grade controls and manpower ceilings but more important was the simple fact that SARPMA's new people were not ready for SARPMA. The move on/about October 1, 1978 resulted in a traumatic experience for many and the unfamiliarity of the new work environment was viewed by the employees as a traumatic change. By not assessing the employees' perceptions of this change in work environment the ability of management to cope effectively with ensuing employee morale suffered. Without a gauge of employee attitude to the new work setting, its structure, and its operation, management could not control the increasing decline in employee morale. As a result of this unintentional ordeal many top technical and experienced employees choose reassignment in other agencies rather than face the unknown. Although the employee turnover is now somewhat less, SARPMA continues to face a loss of experienced employees. These employees, as those gone before them, represent a vital asset SARPMA cannot do without - employees experienced in the functions of an industrial fund activity. With an upcoming (three to five years) attrition of approximately 30% of mid-level managers, the need to motivate current employees towards improved production

6

and keep those top level experienced employees intact, available to fill these vacated slots, must be addressed. Assessment of employees' perception of the organization, its climate, its management and their role in it can affect the productivity and effectiveness of the organization. SARPMA can produce a more favorable profit and loss statement by knowing what the attitudes of its employees are and thereby adjust its present management approaches towards its employees contributing favorably to the organizational climate. Regardless of the level of employee morale, production, and effectiveness, all levels of management must have the ability to recognize potential problems before they arise so as to focus on the solution before it is needed.

The OAP was used to survey professional and technical staff of SARPMA/DEE (Division of Engineering and Construction Management). This unit was chosen because of the writer's familiarity with the work environment, its people, and SARPMA's image as an effective and efficient organization. This study will compare DEE employee responses to responses from other civil engineering employees in other Air Force agencies in order to determine if similar levels of perceptions exist. Additionally, the study will review some of the literature pertaining to organizational climate and indicate which items on the OAP relate to aspects of organizational climate. Finally, the study will attempt to determine the critical factors affecting productivity within SARPMA.

The specific research questions are:

1. Does the OAP provide for a measurement of organizational climate?

2. Do RPMA employees (engineers and technicians) perceive the organizational climate of their organization differently from their counterparts in other Air Force agencies?

3. Can the OAP, alone or combined with other measurements, be used by SARPMA for management improvement?

DEFINITIONS

For mutual understanding the following definitions are used in this study:

a. Organizational Climate - "Describes a set or cluster of expectancies and incentives and represents a property of environments that is perceived directly or indirectly by the individuals in the environment" (Litwin & Stringer, 1968, p. 29). "The scale description of these expectancies and incentives are" (Litwin & Stringer, 1968, p. 67):

(1) Structure - The feeling that employees have about the constraints in the group, how many rules, regulations, procedures there are; is there an emphasis on "red tape" and going through channels, or is there a loose and informal atmosphere.

(2) Responsibility - The feeling of being your own boss; not having to double check all your decisions; when you have a job to do, knowing that it is <u>your job</u>.

(3) Reward - The feeling of being rewarded for a job well done; emphasizing positive rewards rather than punishments; the perceived fairness of the pay and promotion policies.

(4) Risk - The sense of riskiness and challenge in the job and in the organization; is there an emphasis on taking calculated risks, or is playing it safe the best way to operate.

(5) Warmth - The feeling of general good fellowship that prevails in the work group atmosphere; the emphasis on being well liked; the prevalence of friendly and informal social groups.

(6) Support - The perceived helpfulness of the managers and other employees in the group; emphasis on mutual support from above and below.

(7) Standards - The perceived importance of implicit and explicit goals and performance standards; the emphasis on doing a good job; the challenge represented in personal and group goals.

(8) Conflict - The feeling that managers and other workers <u>want</u> to hear different opinions; the emphasis placed on getting problems out in the open, rather than smoothing them over or ignoring them.

(9) Identity - The feeling that you belong to a company and you are a valuable member of a working team; the importance placed on this kind of spirit.

b.   <u>Organizational Assessment Package (OAP)</u> - A survey instrument developed by the Leadership and Management Development Center (LMDC) at Air University, Maxwell AFB, Alabama to measure attitudinal responses.

c.   <u>Engineering and Construction Division (DEE)</u> - A portion of the civilian workforce within RPMA charged with the responsibility of engineering, design and construction management of all projects for RPMA clients.

d.   <u>Statistical Package for the Social Sciences (SPSS)</u> - Is a system of computer programs designed for the analysis of social science data (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975).

The next chapter will present the SARPMA organization, specifically the structure of DEE and how work flows in and out. Additionally, Chapter Two will investigate the definition Organizational Climate to see how it is related to items on the OAP. Finally, this next chapter will focus on an overview of what current research offers in the area of employee productivity.

Chapter Two

LITERATURE REVIEW

"A major organizational issue that pervades all of management [is] the degree of openness and participation in the management of the human-resources subsystem" (French, 1982, p. 47). How the issue is approached and subsequently viewed by the organization's employees will have a major impact on their motivation to perform. Although much has been written about what motivates people, this chapter will not focus on a bibliography of motivational theories and the conclusions reached by their authors. These theories and associated motivational models have already been validated by researchers far more qualified than the writer. Rather, the focus of this chapter will be directed towards:

1) Describing, through sampling, the attitudes of
   employees in an engineering environment, governed
   by a bureaucratic setting.

2) Correlating the nine scale descriptions of Organi-
   zational Climate to the seven modules of OAP.

The chapter will close with a summary of current thoughts and research in the area of improving employee productivity. Prior to presenting the correlation of Organizational Climate to the OAP, the writer will illustrate the SARPMA structure focusing on

the Division of Engineering and Construction Management, in order
to enable the reader to understand how the organization
accomplishes its organizational objectives. The illustration is
provided to assist the reader in categorizing SARPMA's approach
to managing its work and its people.

SARPMA ORGANIZATION

SARPMA is a government contractor servicing all of its major
clients in a similar fashion as would a Base Civil Engineering
Office. One major division of this service-oriented organization
is the Division of Engineering and Construction Management (DEE).
The mission statement for DEE reads as follows:

> Provide management and professional engineering
> services to ensure the most effective and economic
> condition of all facilities of its clients. Included
> in the variety of services are six (6) major functions:

-Construction Contract Design

-Service Contract Preparation

-Engineering Studies

-Programming Cost Estimtes

-Environmental Program Coordination

-Construction Management

The organizational structure of SARPMA is characterized by a
multi-level hierarchy of authority, heavily dependent on its
decision making from top down. Participative management and
participative decision making is, for the most part, limited.
Management of this organization can be considered highly
structured and can be classified as bureaucratic, primarily

dependent on rules and regulations to formulate its policies. This descriptive analysis is not intended to be critical but rather is considered essential in order to assess and analyze employees' attitudinal responses to the OAP survey.

To illustrate the multi-level hierarchy of authority prevalent throughout the organization the structure of the DEE is presented (Figure 1). The authority structure in this line structure is considered representative of the multi-level management of SARPMA employees.

SARPMA, through its subunits such as DEE, charges and pays for all the resources used in accomplishing the workload received from all its clients. The amount charged to each client is directly proportional to each client's share of the total workload. To summarize how DEE accomplishes its role in this effort:

Client identifies requirements	Staff Civil Engineer integrates all require- ments	SARPMA/DEE integrates all require- ments from all clients

Depending on the class of work covered by these requirements, it is categorized into one or more of the 6 major service functions previously identified in the unit's mission statement. The workload is then assigned to one of the four (4) branches (DEEE, DEEC, DEEF or DEES) in DEE for accomplishment. Assuming all requirements for construction contract design have been identified and design schedules initiated to complete this volume of work the work flows in and out of a typical branch (Engineering Design Branch, DEEE) as shown in Figure 2.

13

```
                        (DEE/CHIEF)
                        DIVISION OF
                ENGINEERING AND CONSTRUCTION
                        MANAGEMENT
                            |
                   (DEE/DEPUTY CHIEF)
                            |

ENGINEERING SERVICES_____ ENGINEERING DESIGN
BRANCH (DEES/CHIEF)          |        BRANCH (DEEE/CHIEF)
                            |                   |
                            |                   |
FACILITIES ENGINEERING_____|        * (DEEE/DEPUTY CHIEF)
BRANCH (DEEF/CHIEF)         |
                            |
                            |
CONSTRUCTION MANAGEMENT_____|       CIVIL ENGINEERING____
BRANCH (DEEC/CHIEF)                  SECTION (DEEEC/CHIEF)  |
                                                           |
                                     ARCHITECTURAL_____|
                                     SECTION (DEEEA/CHIEF)  |
                                                           |
                                     MECHANICAL ENGINEERING_|
                                     SECTION (DEEEM/CHIEF)  |
                                                           |
                                     ELECTRICAL ENGINEERING_|
                                     SECTION (DEEEE/CHIEF)  |
                                                           |
                                     PROJECT MANAGEMENT ___|
                                     SECTION (DEEEP/CHIEF)  |
                                                           |
                                     DRAFTING SECTION_____|
                                     (DEEED/CHIEF)
```

*Although the other branches indicated do not have a deputy chief
their section level structure is similar to DEEE.

<center>Line Structure - DEE
Figure 1</center>

<center>14</center>

DEEE Reviews
Design Requirement
Identified and
Scheduled ──────────────┐ ┌─► DEEE prioritizes all
                         requirements and assigns
                         each design section
                         their workload

Design section supervisor
assigns work to a member
within section

Multi-Discipline   Single-Discipline
Project   Project

Project Architect/   Architect/Engineer
Project Engineer   performs work
(Lead team member
is assigned)   Goes to each section's
                                              supervisors for tech-
Coordinates with other   nical review and
section supervisors   approval
for engineering
support team members   Work is accepted and if
                                              funded sent out for
Team performs work   procurement of a con-
                                              struction contract

Work Flow Process
Figure 2

15

Although the work flow example would appear simple, there exist, as with any bureaucratic system, the voluminous updated reports, reviews, and changes creating that all too familiar paper mountain to contend with. The level of complexity in coordination required by multi-discipline projects also adds to the delays, mis-communications and design deficiencies that occur. The work flow structure presented is also typical to that of an ATC Base Civil Engineering Office but it does differ in two areas:

1. The amount/volume of design work to be accomplished under scheduled design manhour allotments (SARPMA employees must accomplish more work with less manhours than those available to BCE employees).

2. The administrative paper shuffle that occurs at the design and engineering staff level, i.e., below first line supervisors, (SARPMA employees have more reports, more reviews to satisfy than do BCE employees).

These two factors are considered significant in forming the perceptions these employees have about their organization and their role in it. How significant the differences are will result from:

1. A comparison of attitudinal responses using the same survey instrument from employees having the same basic Air Force Specialty Code (55 series) and other federal (specifically Air Training Command (ATC) employees).

2. An analysis of the statistical significance, if any, of the differences in attitudinal responses using the t-Test.

16

The significance of these differences will be the main thrust of Chapter Three. Before addressing the statistical significance, the concept of Organizational Climate and the measurement or survey instrument, (OAP), require review.

ORGANIZATIONAL CLIMATE

To discern what motivates employees toward performance managers must consider employees' perceptions towards his/her job setting or organization. One such measurement of employee perception is Organizational Climate. Chapter One presented a definition of this term as a set of perceptions and feelings that organizational employees have about certain broad aspects of the organization. The descriptions for Organizational Climate (Litwin & Stringer, 1968) and the OAP modules are:

Organizational Climate	OAP MODULES
1) Structure - group constraints rules, procedures, type of atmosphere	*1) Background info - demographics of the employee
2) Responsibility - autonomy over one's job performance and work decisions	2) Job inventory - how complex is employee's job, job autonomy, performance standards, job goals
3) Reward - satisfaction with benefits derived from one's performance	3) Job desires - what characteristics are desirable in the job
4) Risk - amount of personal challenge - degree of failure allowed without personal risk	4) Supervision - measurement of leadership/management traits of immediate supervisor

5) Warmth - degree of fellowship throughout the work group

5) Work group effectiveness. Perceived quality and quantity of work produced by work group

6) Support - helpfulness of management and co-employees

6) Organization climate - overall perception of employee's relationship to organization

7) Standards - degree of emphasis on performance of both personal and organizational goals

7) Job related satisfaction - deals with employee's work environment, teamwork, work attitude

8) Conflict - openness of management to receive constructive criticism from employees

9) Identity - feeling/sense of belonging or part of the organization, a valuable member of the company

*The First module of the OAP is concerned with length of time in organization, career field, ethnic group, level of education, etc. - no correlation to Organizational Climate.

Since the OAP will be used to gauge the Organizational Climate, do correlations exist between the nine perceptions and the seven modules?

First, consider OAP Module 2 - Job Inventory; this module relates to the respondent's job. Thirty-four (34) items are stated dealing with job complexity, the degree of autonomy respondent has on the job, performance standards, job goals, etc. With this criteria in mind, reviewing the line descriptions of Organizational Climate we find that perception 2 (Responsibility) and perception 7 (Standards) compare favorably to Module 2 (Job Inventory).

Next consider OAP Module 3 - Job Desires; this module measures the job characteristics that are desired by the respondent. Seven (7) items are stated dealing with degree of opportunities for independence in performing work, personal growth, performing a variety of tasks, ease of work to be performed, task responsiveness, and meaningfulness of the job. Comparing these criteria to line descriptions of Organizational Climate we find that a combination of perception 2 (Responsibility) with perception 3 (Reward), perception 4 (Risk) and perception 7 (Standards) seem to satisfy the desirable characteristics of the job or Module 3.

Moving to Supervision or Module 4, we note that this module measures the leadership/management traits of the employee's immediate supervisor. The eight (8) items assess the supervisor's communicating, planning and overall managing skills. Comparing this definition to the line descriptions for Organizational Climate it is apparent perceptions 1 (Structure), 2 (Responsibility), 6 (Support) and 7 (Standards) correlate to measures of Module 4.

In OAP Module 5 - Work Group Effectiveness we measure how the respondent perceives the quantity and quality of work produced by the respondent's work group. There are five (5) items in this module measuring the criterion of work group productivity. Comparing Module 5 to the line descriptions of Organizational Climate we find that perceptions 3, 5, 6, 7 and 9 (Reward,

Warmth, Support, Standards and Identity) do in fact relate to and measure work group effectiveness.

The next module (Module 6), Organization Climate, measures the respondent's overall perception of how he/she relates to the organization. The nineteen (19) items of this module deal with acceptance of respondent's ideas, support of the organization resources, communications, acknowledgement of work performed, and sense of belonging. Reviewing the nine line descriptions of Organizational Climate we find a very high similarity to the OAP's Module 4, Organization Climate. Since such a high degree of similarity exists between Module 4 and the nine perceptions of Organizational Climate this module can serve as the index for the overall attitude of the respondents toward their organization.

Finally, OAP Module 7 - Job Related Satisfaction measures the degree of teamwork, work attitude, and respondent's feelings about his/her work environment. Recalling the nine line descriptions of Organizational Climate and this definition of Module 7 we find that perception 2 (Responsibility) in combination with 3 (Reward), 5 (Warmth), 6 (Support) and 7 (Standards) offer a measure of the job related satisfaction (Module 7).

In summary, by reviewing the line descriptions of each of the nine perceptions in comparison to what each module of OAP is measuring we find, in all cases, a high degree of similarity. Therefore, the conclusion is reached that the OAP does, in fact, serve as a measure of Organizational Climate.

CURRENT RESEARCH ON PRODUCTIVITY FACTORS

The studies reviewed have identified several key management skills and techniques managers can employ to improve employee productivity. For example, McAfee and Poffenberger (1982) recommend a contingency approach when attempting to improve employee productivity. The authors prefaced their contingency approach and its seven basic strategies by calling attention to some assumptions that must be considered: (McAfee and Poffenberger, 1982).

a. No single approach to increasing employee productivity will be effective under all conditions.

b. Most approaches currently available to improve employee productivity will be effective under certain conditions.

c. Under certain conditions two or more approaches to improving employee productivity will be just as effective.

The seven contingency approach strategies are: (McAfee and Poffenberger, 1982).

1. Positive reinforcement and shaping.

2. Effective disciplinary actions.

3. Treating employees fairly.

4. Setting employee goals.

5. Satisfying employee needs.

6. Restructuring jobs.

7. Basing rewards on job performance.

The authors conclude that in order for managers to be effective in increasing employee productivity they (the managers) must start by motivating the employees. Another study (Bell, 1982, p. 51) formulated a model in the form of a checklist that managers can employ to enhance the productivity of an organization. In this study the authors propose that managers consider each person in the organization and ask the following:

1. Am I certain this person is clear on the tasks he or she is expected to perform? Is there a target date and an achievable standard of performance?

2. Has this person been involved in planning and organizing the tasks I expect him or her to perform? Does this person know how he or she fits into the unit and the "whys" of all the tasks assigned?

3. Have I made contradictory demands? Does this person know or have a way of knowing at any given time the most important way to spend energy?

4. Do I have the right person in the right role? If not, what have I done to get a better match?

5. Does this person have the competence to effectively perform all tasks? If not, what have I done to insure he or she attains that competence? Are the necessary systems in place or tools available for quality performance?

6. Does this person clearly know what reward he or she can expect for work output? Has the person participated in determining the consequences?

7. Have I done all I can to eliminate or reduce any obstacles or barriers which may inhibit this person from achieving work goals?

8. Does this person get rapid clear performance feedback from me on a frequent basis?

9. Have I let this person know how much I value the work performed? Do I remind him or her of this often?

10. Does this person have the latitude needed to effectively perform required tasks?

11. Have I ensured this person is aware of the wide range of consequences for good performance?

12. Does this person receive consequences appropriate for work output?

A manager by answering these questions and acting on his/her own deficiencies in each area can provide the framework for innovative action resulting in an improved quality of work life and improved employee output. Another study contends that in order to increase productivity two conditions must be met. Bolt and Rummler (1982, p. 40) identified these as: first, productivity must be viewed as a function of the quality of the work environment which includes the individual; and second, the work environment must be managed so that it supports the individual. The authors identified five key elements of the work environment that impact the employee's ability to perform and produce. These key elements include the same general elements posed in the Bell Model, e.g. the nature of the job itself; the

resources available to the individual; the individual; the *feedback he or she receives*; and the consequences of performing the job. Bolt and Rummler also suggest, as did McAfee and Poffenberger, that in order to be effective managers must not concentrate their efforts on only one of the work environment key elements. Rather, the manager's attempts should be directed toward achieving a balance between the individual performer and their immediate work environment. By focusing attention to achieving this balance the authors contend that the employees can be motivated toward increased performance. The authors believe (as does the writer) that people want to do a good job and are capable of doing so - and that when performance is substandard, it usually is not the employee's fault (Bolt and Rummler, 1982).

These reviewed studies, therefore, identified five (5) crucial areas that must be addressed in order to succeed in improving the productivity and performance of employees. These key areas are:

a. Goal setting.

b. Two-way communication.

c. Performance feedback.

d. Reward structure.

e. Work environment.

These five areas will serve as the focus of our analysis of the attitudinal responses of OAP. As Chapter Three will explain, this study will compare RPMA employee perceptions to those of other ATC Base Civil Engineering employees. This comparison will

24

then serve as the basis from which to identify the critical factors affecting the performance and productivity of the RPMA employee.

In summary, this chapter has presented an explanation of the SARPMA organization, specifically focusing on DEE and its employees. In addition, the discussion on Organizational Climate and the seven modules of the OAP concluded a high degree of correlation and the OAP's use as an effective measure of Organizational Climate. Finally, this chapter concluded with a review of the current research on the key areas managers must address when attempting to improve employee productivity and performance. The next chapter will describe the methods used to analyze the data for this study.

Chapter Three

METHODS

The purpose of this chapter is to describe the methods used
to analyze the attitudinal responses of RPMA employees. The
chapter will present the rationale for the null hypothesis,
present selected demographics of the employees surveyed, and
finally discuss the statistical techniques used to analyze the
responses.

RATIONALE FOR AND STATEMENT OF NULL HYPOTHESIS

Chapter Two synopsized certain key areas critical to
improving employee productivity. The reviewed studies identified
these key areas as: goal setting, two-way communication,
performance feedback, reward structure and work environment.
Chapter Two also synopsized a correlation of Organizational
Climate to the OAP. Recalling the nine perceptions of
Organizational Climate and the seven modules of the OAP the
writer concluded that each measures the same thing, e.g. the
degree of employee satisfaction with their work environment. The
reviewed studies also identified five (5) key areas that
contribute to an employee's motivation to perform. These five
(5) areas can be summarized as the degree of positive management
and leadership existing in the organization. Combining these two

26

conclusions results in a major contributing factor to productivity and performance (i.e. the degree of employee satisfaction with the management and leadership existing in their organization). It is this degree of satisfaction, as perceived by the employee, that influences his/her motivation to produce and perform. The desire of management to improve production and performance requires management to be able to statistically analyze the attitudes of their employees. This desire to improve performance serves as the basis for this study.

Chapter Two described the SARPMA/DEE organizational structure and how work flows in and out of the system. In addition, by looking at the Design Branch (DEEE) structure, the constraints in the employee's work environment were reviewed. Briefly each employee (engineer or technician) works directly for a section supervisor. Depending on the type of design requirement, he/she may function either as a team member or individual. In either case, the administrative requirements (performance ratings, leave approvals, training need) and technical support and guidance are handled by the section supervisors. Although some autonomy is allowed to the employee in the design of the project, the section supervisor is the final authority on the design resolution. Therefore, the supervisor/manager must be aware of what motivates the employees to perform and must also be aware of what the employees' perceptions are regarding their role in this organization.

This aspect of management and the findings of the reviewed studies support the assertion that by balancing the needs of employees in the context of their work environment and giving attention to their (employee) perceptions about the organization the motivation (of the employee) to perform can be influenced. By analyzing employee perceptions managers can gain an insight of where changes are needed. This analysis serves then not only as a tool from which to motivate employees to perform but also allows managers to manage effectively. To statistically test (analyze) the employees' perceptions the writer has formulated the following null hypothesis:

1. RPMA employees do not perceive a significant difference in (the 800-series factors of OAP) Organizational Climate versus their counterparts in ATC-Base Civil Engineering (BCE) organizations.

Failure to reject the null hypothesis implies that management and leadership effectiveness (as perceived by the sample population of SARPMA employees) is no better or worse than in other ATC-BCE organizations having a similar staff performing similar work. Additionally, failure to reject the null hypothesis would indicate that employee motivation (within the sample population) is the same as that of other employees in ATC-BCE organizations doing similar work. The important question RPMA management must then answer is . . . Should RPMA management of employees be the same (or nearly the same) as other ATC-BCE government organizations?

28

INSTRUMENTATION AND APPROACH

The OAP survey administered to DEE engineers, architects and technicians consisted of a 109-questionnaire booklet and a computer-scored response sheet. Respondents were given only verbal instructions and allowed complete autonomy in their responses. A copy of the OAP is provided in Appendix A. Respondents use a scale of one to seven to respond to each question (Mahr, 1982, p. 13). Generally, a value of "1" indicates strong disagreement or dissatisfaction with the question or statement, while a "7" indicates strong agreement or satisfaction. The exact meaning of each response is clearly indicated in the survey. Employee responses to the OAP are assumed to be representative and convey their perceptions of the Organizational Climate of their respective unit or organization. Since the OAP will be the vehicle by which the Organizational Climate of an organization (in this case RPMA) is gauged a review of what the OAP is and how it measures an organization's effectiveness is necessary.

ORGANIZATIONAL ASSESSMENT PACKAGE (OAP)

The usefulness of OAP as a survey instrument is evidenced by its application and use in management consultant work throughout the Air Force. The validity and reliability of this survey instrument has been investigated by various studies. For example, Short and Hamilton (1981) examined OAP reliability using both the test-retest method for stability and Cronbach's alpha

29

for internal consistency with good results. In addition, two other studies addressed OAP construct validity and the consistency of the OAP factor structure. Short and Wilkerson (1981) supported the group differences aspects of OAP construct validity across major functional area groups. Finally, the consistency of the OAP factor structure across major functional area groups as well as a variety of demographic groups was demonstrated in 1982 by Hightower and Short (Hightower, 1982).

OAP survey measures twenty-four (24) factors which contribute to the effectiveness of an organization's leadership and/or management. In order to fully understand how the survey is used an understanding of which factors relate to each of the seven modules and their associated items is necessary (see p. 31 through 39). Previous research in this area addressed factor relationships to OAP items.

To summarize the application of the OAP recall that we have reviewed its contents, its validity, its reliability and its correlation to Organizational Climate. In order to complete the application of OAP in this study consider the utility (objectives) of OAP:

> First, the OAP provides a means of identifying existing strengths and weaknesses within organizational work groups, such as directorates. Second, research results can be fed back into their Professional Military Education; other leadership and management training courses; and when action is required to Air Staff and functional offices of primary responsibility. Lastly, the OAP data base established can be used for research to strengthen the overall Air Force organizational effectiveness program (Hendrix and Halverson, 1979, p. 5).

Survey Factors by Modules (Mahr, 1982, pp. 15-23).

(Note: Only six modules are discussed since the first module, BACKGROUND INFORMATION SECTION, gathers basically only demographic information.)

Job Inventory Module. The 34 questions in this module measure 15 factors:

Factors		OAP Questions	
1.	Skill Variety	17.	To what extent does your job require you to do many different things, using a variety of your talents and skills?
		29.	To what extent does your job require you to use a number of complex skills?
2.	Task Identity	18.	To what extent does your job involve doing a whole task or unit of work?
		28.	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
3.	Task Significance	19.	To what extent is your job significant in that it affects others in some important way?
		27.	To what extent does doing your job well affect a lot of people?
4.	Job Feedback	22.	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
		26.	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
5.	Performance Barriers/ Blockages	23.	To what extend do additional duties interfere with the performance of your primary job?

31

Factors	OAP Questions
5. Performance Barriers/ Blockages (continued)	24. To what extent do you have adequate tools and equipment to accomplish your job?
	25. To what extent is the amount of work space provided adequate?
6. Job Motivation Index	-- This factor is computed from the following OAP factors: skill variety, task identity, task significance, performance barriers/blockages, task autonomy, and job feedback.
7. Job Inventory Total	-- The factor is computed from the following OAP factors: job feedback, task significance, performance barriers/blockages, skill variety, task identity, and task autonomy.
8. Job Motivation Index-Additive	-- This factor is computed from the following OAP factors: skill variety, task identity, task significance, performance barriers/blockages, task autonomy, and work repetition.
9. Motivation Potential	-- This factor is based on the Hackman, et al, model and is computed from the following OAP factors: skill variety, task identity, task significance, job feedback, and task autonomy.
10. Job Performance Goals	34. To what extent do you know exactly what is expected of you in performing your job?
	35. To what extent are your job performance goals difficult to accomplish?
	36. To what extent are your job performance goals clear?
	37. To what extent are your job performance goals specific?

32

10.	Job Performance Goals (continued)	38.	To what extent are your job performance goals realistic?
11.	Pride	32.	To what extent are you proud of your job?
		46.	To what extent does your work give you a feeling of pride?
12.	Task Characteristics	17.	To what extent does your job require you to do many different things using a variety of your talents and skills?
		18.	To what extent does your job involve doing a whole task or unit of work?
		19.	To what extent is your job significant, in that it affects others in some important way?
		22.	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
		26.	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
		27.	To what extent does doing your job well affect a lot of people?
		28.	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
		29.	To what extent does your job require you to use a number of complex skills?
13.	Task Autonomy	20.	To what extent does your job provide a great deal of freedom and independence in scheduling your work?

33

Factors	OAP Questions
13. Task Autonomy (continued)	21. To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
	30. To what extent does your job give you freedom to do your work as you see fit?
	31. To what extent are you allowed to make the major decisions required to perform your job well?
14. Work Repetition	39. To what extent do you perform the same tasks repeatedly within a short period of time?
	40. To what extent are you faced with the same type of problem on a weekly basis?
15. Advancement/Recognition	41. To what extent are you aware of promotion/advancement opportunities that affect you?
	43. To what extent do you have the opportunity to progress up your career ladder?
	44. To what extent are you being prepared to accept increased responsibility?
	45. To what extent do people who perform well receive recognition?
	47. To what extent do you have the opportunity to learn skills which will improve your promotion potential?

34

Job Desires Module. The seven questions in this module are used to measure two factors:

Factors	OAP Questions
1. Need for Enrichment	In my job, I would like to have the characteristics described--from "not at all" to "an extremely large amount"

     51.   Opportunities to have independence in my work.

     52.   A job that is meaningful.

     53.   The opportunity for personal growth in my job.

     54.   Opportunities in my work to use my skills.

     55.   Opportunities to perform a variety of tasks.

2. Desired Repetitive/ Easy Tasks

     56.   A job in which tasks are repetitive.

     57.   A job in which tasks are relatively easy to accomplish.

Supervision Module. The 19 questions in this module are used to measure two factors. Three of the questions are not used to measure any statistical factor.

Factors	OAP Questions
1. Leadership	58. My supervisor is a good planner.

     59.   My supervisor sets high performance standards.

     60.   My supervisor encourages teamwork.

     61.   My supervisor represents the group at all times.

     62.   My supervisor establishes good work procedures.

     63.   My supervisor has made his responsibilities clear to the group.

Factors	OAP Questions
1. Leadership (continued)	64. My supervisor fully explains procedures to each group member.
	65. My supervisor performs well under pressure.
2. Supervisory Communications Climate	67. My supervisor asks members for their ideas on task improvements.
	68. My supervisor explains how my job contributed to the overall mission.
	69. My supervisor helps me set specific goals.
	70. My supervisor lets me know when I am doing a good job.
	72. My supervisor always helps me improve my performance.
	73. My supervisor insures that I get job related training when needed.
	74. My job performance has improved due to feedback received from my supervisor.
	76. My supervisor frequently gives me feedback on how well I am doing my job.

Work Group Effectiveness (Work Group Productivity) Module.
The five questions in this module are used to measure one factor.

Factor	OAP Questions
1. Work Group Effectiveness	77. The quantity of output of your work group is very high.
	78. The quality of output of your work group is very high.

Factor		OAP Questions
1.	Work Group Effectiveness (continued)	79. When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an <u>outstanding</u> job in handling these situations.
		80. Your work group always gets maximum output from available resources (e.g., personnel and material).
		81. Your work group's performance in comparison to similar work groups is very high.

<u>Organization Climate Module</u>. The 19 questions in this module are used to measure two factors.

Factors		OAP Questions
1.	Organizational Communications Climate	82. Ideas developed by my work group are readily accepted by management personnel above my supervisor.
		83. My organization provides all the necessary information for me to do my job effectively.
		84. My organization provides adequate information to my work group.
		85. My work group is usually aware of important events and situations.
		86. My complaints are aired satisfactorily.
		91. The information in my organization is widely shared so that those needing it have it available.
2.	General Organizational Climate	87. My organization is very interested in the attitudes of the group members toward their jobs.

Factors	OAP Questions
2. General Organizational Climate (continued)	88. My organization has a very strong interest in the welfare of its people.
	89. I am very proud to work for this organization.
	90. I feel responsible to my organization in accomplishing its mission.
	92. Personnel in my unit are recognized for outstanding performance.
	93. I am usually given the opportunity to show or demonstrate my work to others.
	94. There is a high spirit of teamwork among my co-workers.
	95. There is outstanding cooperation between work groups of my organization.
	97. I feel motivated to contribute my best efforts to the mission of my organization.
	98. My organization rewards individuals based on performance.

Job Related Satisfaction Module. The nine questions in this module are used to measure two factors:

Factors	OAP Questions
1. Job Related Issues	101. Feeling of Helpfulness The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.

Factors	OAP Questions

1. Job Related Issues
    (continued)

102. Co-worker Relationships
My amount of effort compared
to the effort of my co-workers,
the extent to which my co-
workers share the load, and the
spirit of teamwork which exists
among my co-workers.

103. Family Attitude Toward Job
The recognition and the pride
my family has in the work I do.

106. Work Schedule
My work schedule; flexibility
and regularity of my work
schedule; the number of hours
I work per week.

107. Job Security

108. Acquired Valuable Skills
The chance to acquire valuable
skills in my job which prepare
me for future opportunities.

109. My Job as a Whole

2. Job Related Training

104. On-the-Job Training (OJT)
The OJT instructional methods
and instructors' competence.

105. Technical Training (Other than
OJT). The technical training I
have received to perform my
current job.

SUBJECTS

The subjects of this study were those DEE employees with a 55 series AFSC (engineers, architects and engineering technicians). Seventy-nine (79) of these employees responded to the survey. The key demographic features of the respondents are summarized from the 19 items in OAP Module 1. The average age of the respondents is 42 and they are classed into 3 age groups:

a) Young (22   age   31); 20 respondents.

b) Mid (32   age   51); 32 respondents.

c) Older (52   age   64); 20 respondents.

The respondents' service time with the Air Force also indicates 3 general groupings:

a) Short (1   service time   4); 28 respondents.

b) Mid (4   service time   12); 16 respondents.

c) Long (service time   12); 23 respondents.

Review of the respondents' grade levels indicates only two distinct grade groupings:

a) Low (5   grade level   10); 24 respondents.

b) High (11   grade level   13); has 50 respondents.

Additionally, of the 78 respondents, 88% (69 respondents) are male and 12% (9 respondents) are female. The educational level of the respondents is predominantly at the Baccalaureate level, with 77% or 61 respondents. Also an additional 12% (9 respondents) have some college education and 9% (7 respondents) hold Masters Degrees. Major ethnic distributions are: 60% White

40

(47 respondents); 29% Hispanic (23 respondents) and 3% Black (2 respondents). Marital status is in 3 primary categories:

   a) Not married - 18% or 14 respondents.

   b) Married with spouse employed - 28% or 22 respondents.

   c) Married with spouse not employed - 48% or 38 respondents.

The results and discussion of items 13 and 14 are contained in Chapter Five - Conclusions and Recommendations. The next section of this chapter will explain the statistical methods used to analyze the perceptions of Module 2 through Module 7 of the OAP.

METHOD OF DATA ANALYSIS

As explained in Chapter One, the OAP survey was administered to SARPMA/DEE personnel. The survey contains 7 modules with 109 total items. The 109 items are categorized into 24 factors, called the 800-series. The 800-series factors are used in identifying areas where improvement may be necessary. The 24 factors or 800-series factors were presented in the portion titled Organizational Assessment Package (OAP) together with their respective items. Table 1 presents each of the factors and the method of calculating each of them. Factor and item correlation is presented in Appendix B. The 24 factors of the 800-series will be statistically analyzed to test the null hypothesis presented earlier in this chapter.

TABLE 1

OAP 800 SERIES FACTORS AND THEIR DERIVATION

FACTOR #	LABEL	FORMULA (Vxxx-Survey data or calculated value)
V800	Skill Variety	(V201 + V212)/2
V801	Task Identity	(V202 + V211)/2
V802	Task Significance	(V203 + V210)/2
V804	Job Feedback	(V272 + V209)/2
V805	Work Support	(8- V206 + V207 + V208)/3
V806	Need for Enrich-ment Index	(V249+V250+V251+V252+V253)/5
V807	Job Motivation Index	((V800+V801+V802+V805)/4)xV813x V804
V808	OJI Total Score	(V201+V202+V203+V270+V271+V272+ 8-V206+V207+V208+V209+V210+V211+ V212+V213)
V809	Job Motivation Index--Additive	((V800+V801+V802+V805)/4+V813+ V804
V810	Job Performance Goals	(V217+V221+V218+V273+V274)/5
V811	Pride	(V215 + V275)/2
V812	Task Characteristics	(V210+V203+V201+V212+V209+V272+ V202+V211)/8
V813	Task Autonomy	(V270 + V271 +V213 +V214)/4
V814	Work Repetition	(V226 + V227)/2
V816	Desired Repetitive/ Easy Tasks	(V255 + V258)/2
V817	Advancement/ Recognition	(V239+V240+V234+V241+V276)/5
V818	Management/ Supervision (A)	(V404+V412+V413+V416+V411+V445+ V405+V410)/8
V819	Supervisory Communi-cations Climate	(V435+V437+V442+V433+V431+V436+ V428+V426)/8

42

TABLE 1 Continued

V820	Organizational Communications Climate	(V302+V301+V303+V309+V304+V300+ V317+V318+314)/9
V821	Perceived Productivity	(V260+V265+V261+V259+V264)/5
V822	Job Related Satisfaction	(V717+V723+V718+V719+V710+V705+ V709)/7
V823	Job Related Training	(V711 +V712)/2
V824	General Organization Climate	(V315+V307+V306+V316+V305+V308+ V311+V310+V312+V313)/10

Level of Significance

The writer has formed one null hypothesis stating there will be no significant difference between the perceptions RPMA employees have of the Organizational Climate of their organization versus their counterparts in other government organizations. Rejection or acceptance of the null hypothesis will depend on comparing the mean score and variance about the mean for each of the two samples. The comparison will be done on a factor by factor basis in order to reduce the chance for error in interpreting the results. Failure to reject the null hypothesis implies that any difference found between the factor mean for SARPMA employees and the factor mean of other BCE employees is of such a level the variation may be attributed to sampling error and not necessarily to a true difference in the perceptions. Similarly, rejection of a null hypothesis implies the differences between factor means (1) is of such a level the variation most likely is not attributed to sampling error and, (2) is significant for the factor being examined.

This study will use the 0.05 (five percent) level of significance for rejection or acceptance of the null hypothesis.

> The significance level is the probability of rejecting the null hypothesis (H_o) when it is true. This is referred to as a type I error. A type II error occurs when H_o is false and it is accepted. The .05 significance level means there are five chances in 100 of rejecting the null hypothesis when it should be accepted. If the statistical tests indicate the null hypothesis should be rejected, there is a 95% confidence level that this is the right decision (Nie, Hull, Jenkins, Steinbrenner, and Brent, 1975, p. 268).

44

For each factor examined, the level of confidence (probability of an error) actually found will be indicated. Differences that are statistically significant at a 0.05 level of significance will be examined and interpreted to determine their implications and conclusions as applicable in this study.

Independent Samples t-Test

The t-Test was used to determine if the RPMA mean for a given factor was significantly different from that for BCE employees. To calculate the t-value the following formula was used:

$$t\text{-value} = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{(N_1-1)\ S.D._1^2 + (N_2-1)\ S.D._2^2}{N_1 + N_2 - 2}} \sqrt{\frac{1}{N_1} + \frac{1}{N_2}}}$$

where;

	SARPMA	ATC EMPLOYEE
Mean	$\overline{X}_1$	$\overline{X}_2$
Standard Deviation	$S.D._1$	$S.D._2$
Sample Size	N_1	N_2

Prior to conducting the t-Tests, the assumption of equal variances was tested using the F-Test. The .05 significance level was used for the F-Test. For the t-Tests, if the probability for the calculated value of t was less than the significance level chosen (.05) then the null hypothesis can be

rejected and the alternative hypothesis accepted. In the case of the 800-series factors, this would mean that SARPMA/DEE employees perceive a significant difference in Organizational Climate of their organization versus other ATC-BCE employees. In Chapter Four, the results of this testing will be presented for each factor.

For those factors where a significant difference is found additional t-Tests can be conducted for each item in the factor to determine more specifically which items are driving the significant difference. Results of this additional analysis will be addressed as a part of this study. The analysis of those factors found to be significantly different will be limited to review of the mean values. Based on these mean values inferences will be made to generally describe what is causing the differences.

This chapter has presented the null hypothesis, described the subjects of the survey, and the statistical methods used to analyze the survey results were reviewed. The next chapter will explain in detail the results of the statistical analysis.

Chapter Four

RESULTS OF ANALYSIS

This chapter presents the results of the statistical analysis performed on each of the 800-series OAP factors. The analysis of these factors is the basis for addressing the null hypothesis stated in Chapter Three. The results of the analysis are presented in Table 2. The table indicates the values of the mean (x), standard deviation (S.D.), population or sample size (N) and the calculated t-value (t) for each factor. Factors having a significant difference are identified by an asterisk (*). Findings of significant difference will be discussed to insure understanding.

NULL HYPOTHESIS 1

RPMA employees do not perceive a significant difference in some of the 800-series factors of OAP (or their Organizational Climate) versus other ATC-BCE employees. As shown in Table 2, the results of the t-Tests show statistically significant differences in job feedback, work support, task characteristics, work repetition, and desired repetitive easy tasks.

Taking each of the 800-series factors in the order presented above, further analysis shows which items are contributing to the difference.

TABLE 2

t - Test: 800 Series Factors -
Sample Comparisons

(Other government employees - ATC employees having 55 series AFSC)

OAP FACTOR	SAMPLE	N	MEAN	STD DEV	t
V800	SARPMA	76	5.303	1.357	-0.315
	ATC	191	5.359	1.315	
V801	SARPMA	77	5.338	1.185	-1.175
	ATC	193	5.526	1.199	
V802	SARPMA	78	5.564	1.160	-0.918
	ATC	191	5.709	1.189	
V804	SARPMA	79	4.696	1.331	-4.119 *
	ATC	191	5.351	1.129	
V805	SARPMA	75	4.271	1.049	-3.641 *
	ATC	181	4.799	1.096	
V806	SARPMA	74	5.743	1.184	.194
	ATC	188	5.715	1.034	
V810	SARPMA	77	4.745	1.000	-1.849
	ATC	189	4.978	0.919	
V811	SARPMA	79	5.399	1.505	-1.15
	ATC	190	5.613	1.333	
V812	SARPMA	74	5.234	1.001	-2.15 *
	ATC	186	5.498	0.883	
V813	SARPMA	75	4.710	1.433	- .93
	ATC	183	4.873	1.246	
V814	SARPMA	76	3.750	1.408	-4.037 *
	ATC	188	4.513	1.416	
V816	SARPMA	77	2.649	1.303	-2.758 *
	ATC	187	3.184	1.511	
V817	SARPMA	72	3.894	1.177	.366
	ATC	180	3.826	1.414	
V818	SARPMA	71	5.228	1.595	.166
	ATC	189	5.264	1.561	

48

TABLE 2 Continued

V819	SARPMA	75	4.816	1.554	- .19
	ATC	182	4.857	1.619	
V820	SARPMA	78	4.771	1.537	.485
	ATC	178	4.673	1.427	
V821	SARPMA	77	5.665	1.264	.491
	ATC	188	5.594	1.266	
V822	SARPMA	76	5.315	1.215	-1.77
	ATC	175	5.592	1.085	
V824	SARPMA	78	4.926	1.382	-0.516
	ATC	181	5.020	1.352	

Under Job Feedback (V804) item 22 asks . . . To what extent are you able to determine how well you are doing your job without feedback from anyone else? Review of the distribution indicates a $\bar{x}$ value = 4.557, which implies that employees are not able to gauge the performance without feedback. In addition item 26 asks . . . To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work? The distribution indicates a $\bar{x}$ value = 4.835, implying that employees are slightly undecided about their chances of knowing when they perform well and the degree of autonomy allowed to them in the performance.

Review of factor V805 - Work Support asks employees to determine if the work environment is conducive to performance. Item 23 asks . . . To what extent do additional duties interfere with the performance of your primary job? The mean value, $\bar{x}$ = 4.103 implies that employees feel additional duties do in fact interfere with job performance. Item 24 asks . . . To what extent do you have adequate tools and equipment to accomplish your job? Review of the value $\bar{x}$ = 4.587 and the response breakdown implies that employees slightly disagree that the tools and equipment are adequate to accomplish their jobs. The last item asked in this factor is . . . To what extent is the amount of work space-provided adequate? Responses to this item 25 results in a $\bar{x}$ value = 4.456. This degree of response implies that employees slightly disagree that the work space is adequate.

Looking at V812 - Task Characteristics we find a total of 8 questions. The first item, number 17 asks . . . To what extent does your job require you to do many different things, using a variety of your talents and skills? $\bar{x}$ value for this item is 5.551. Here employees perceive that they are using to a fairly great extent their talents in order to accomplish their work. Another item in this factor, item 18 asks . . . To what extent does your job involve doing a whole task or unit of work? This item has an $\bar{x}$ value = 5.494 which implies that employees are required to perform a whole task most of the time. The next item, number 19 asks . . . To what extent is your job significant, in that it affects others in some important way? Responses to this item resulted in a mean value of 5.782. Employees perceive their work as being significant and that the significance is important impacting on others. Item 22 asks. . . To what extent are you able to determine how well you are doing your job without feedback from anyone else? The $\bar{x}$ value, here, is 4.557, which implies that employees are, only sometimes, able to determine their own rate of performance. The next item, number 26, asks . . . To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work? Responses to this item resulted in a mean value of 4.835 which indicates employees sometimes are given the chance to personally know the value of their performance and be personally responsible for their work. Item 27 asks . . . To what extent does doing your job well affect a

lot of people? The $\bar{x}$ value of 5.346 indicates employees perceive their performance as affecting others to a fairly large extent. The next item, number 28, asks . . . To what extent does your job provide you with the chance to finish completely the piece of work you have begun? The responses indicate an $\bar{x}$ value of 5.221 which implies that employees perceive a fairly large degree of having the chance of finishing their work. Finally, the last item in this factor, item 29 asks . . . To what extent does your job require you to use a number of complex skills? Responses indicate an $\bar{x}$ value of 4.987, which implies employees perceive that they sometimes need to use complex skills in their jobs.

Factor V814-Work Repetition has two items. The first of these, item 39, asks . . . To what extent do you perform the same tasks repeatedly within a short period of time? The $\bar{x}$ value of 3.846 indicates that the work being performed is not considered repetitive in nature. The second item, number 40 asks . . . To what extent are you faced with the same type of problem on a weekly basis? The responses resulted in a mean value of 3.597 which again implies that the work being performed is not perceived as repetitive.

The last factor which under the t-Test analysis showed a significant difference in its response value when compared to other ATC-BCE employees doing similar work is Factor V816 - Desired Repetitive Easy Tasks (also has two items). Item 56 asks if the employee would like his/her job to have tasks which are repetitive. Responses provide an $\bar{x}$ value of 2.577 which

52

indicates a moderate to slight preference for repetitive type work. The second item, number 57, asks the employees if they desire tasks which are relatively easy to accomplish. A mean value $\bar{X}$ of 2.718 also indicates a moderate to slight preference for repetitive work.

SUMMARY

RPMA personnel do perceive certain factors of the OAP (or Organizational Climate) differently compared to their counterparts in ATC-BCE and the differences are statistically significant. These factors are job feedback, work support, task characteristics, work repetition, and desired repetitive easy tasks. These factors and the remaining 800-series factors which are considered important in contributing to the performance and productivity will be discussed in the next chapter. In addition, the next chapter will present conclusions drawn from the discussion and provide recommendations.

Chapter Five

CONCLUSIONS AND RECOMMENDATIONS

Prior to presenting the conclusions and recommendations drawn from the results of this study, a brief review of the reasons the writer initiated this study is necessary. These reasons together with the major findings of the literature review formulate the basis for conducting the research. The remainder of the chapter will discuss the results of the analysis performed on the surveyed perceptions of engineering/design personnel at San Antonio Real Property Maintenance Agency in order to draw conclusions and make recommendations concerning the management and supervision of employees in DEE. As explained in Chapter Two, SARPMA/DEE serves as the focus of this study.

REVIEW

The writer accomplished this study in order to determine if Organizational Climate at an RPMA can be measured. Specifically the writer has attempted to measure the effectiveness of current management and supervision practices in order to provide the basis for increasing the performance and productivity of employees within an RPMA environment. The writer felt that through application and subsequent analysis of the survey instrument, i.e. the OAP, the attitudes of RPMA employees could

be used to focus on the management/supervision practices requiring improvement. Finally, the study attempted to describe the factors within the RPMA environment that should be addressed in order to assist management in motivating their employees towards increased performance and productivity.

DISCUSSION

Review of the 800-series factors indicates there are significant differences between the attitudinal responses of RPMA employees and comparable ATC-BCE employees. Although this is important in establishing the utility of the survey instrument and does allow for a comparison of attitudes among employees doing similar work, the comparison in itself does not offer an insight to what is critical for improving the performance and productivity of the RPMA employee. In order to assess what is critical and decisive and what will cause the employee to become more motivated towards better performance and productivity, the individual Modules 1 through 7 must be reviewed. By reviewing the responses to specific questions within each module a better insight is gained of what areas require improvement. With this as the basis for discussion and recalling the purpose of the study let us begin with Module One - Background Information.

Two critical perceptions that appear in Module One, from a management/leadership viewpoint, are found in the responses to items 13 and 14:

a) Item 13 asks, "How often does your supervisor hold group meetings?" The significant responses are:

1.   Never - 3%, 2 responses.

        2.   Occasionally - 38%, 30 responses.

        3.   Monthly - 10%, 8 responses.

        4.   Weekly - 48%, 38 responses.

    b)   Item 14 asks, "How often are group meetings used to solve
problems and establish goals?"

        1.   Never - 10%, 8 responses.

        2.   Occasionally - 53%, 41 responses.

        3.   About half the time - 17%, 13 responses.

        4.   All of the time - 21%, 16 responses.

    It would appear from the responses that although there is a
high frequency of communication, the communication is one way.
One would expect that if there are frequent group meetings, most
of the problems and goals of the group could be resolved. This
inconsistency may be attributable to the highly bureaucratic
style of management that exists in the work environment. Further
investigation of changing the approach to conducting group
meetings appears to be warranted. Analysis of specific variables
in the 800 factor series, e.g. V819 Supervisory Communication
Climate may serve to pinpoint where this communication can be
improved. Although there was no significant difference in the
level of response from RPMA employees versus ATC-BCE employees,
consideration to the individual questions within V819 provides
management with indications of areas requiring improvement. For
example, of the eight items covered by this factor (items 67, 68,
69, 70, 72, 73, 74 and 76), items 74 and 76 have the lowest mean

value, i.e., management/supervision changes may be needed. Consider what these two items are asking:

a) Item 74 (mean value is 4.808) states . . . "My job performance has improved due to feedback received from my supervisor." The significant responses are:

1. Strongly disagree - 12%, 9 responses.

2. Moderately disagree - 6%, 5 responses.

3. Slightly disagree - 4%, 3 responses.

4. Neither agree or disagree - 17%, 13 responses.

5. Slightly agree - 18%, 14 responses.

6. Moderately agree - 17%, 13 responses.

7. Strongly agree - 27%, 21 responses.

b) Item 76 (mean value is 4.203) states . . . "My supervisor frequently gives me feedback on how well I am doing my job." The employee responses were distributed as follows:

1. Strongly disagree - 14%, 11 responses.

2. Moderately disagree - 10%, 8 responses.

3. Slightly disagree - 14%, 11 responses.

4. Neither agree or disagree - 16%, 13 responses.

5. Slightly agree - 10%, 8 responses.

6. Moderately agree - 20%, 16 responses.

7. Strongly agree - 15%, 12 responses.

Looking at the responses to these items and the responses to items 13 and 14, the writer concludes that although group meetings occur with regular frequency their purpose is not specific and does not provide for a one-to-one discussion of

employee performance. Establishing this relationship between
supervisor and employee both as individuals and as part of the
total group directly influences the performance and productivity
of the unit. In addition, this relationship contributes to
increasing work group effectiveness and to the perception of
identity. Review of responses to item 16 (i.e. Describe your
career or employment intentions) implies that most employees are
Air Force career oriented. For example, 39% of the respondents
(26) intend to continue with the Air Force, 30% or 20 respondents
indicate they will most likely continue and 11 respondents or 16%
say they may continue to pursue an Air Force career.

Therefore to summarize Module One of OAP we conclude that the
labor force is highly educated and experienced with a strong
willingness to continue their careers in the Air Force. In
addition, there exists one opportunity in the area of
communication that may provide a vehicle for enhancing the
productivity of the labor force. Finally, the 3 distinct groups
within this labor force require different management
considerations. These groups are:differences in age and
therefore differing work values; differences in tenure which
requires application of different motivational techniques; and a
difference in grade level which requires the use of different
communication and management styles.

Turning our attention to Module Two - Job Inventory, items 17
through 50 or factors 812 - Task Characteristics, 813 - Task
Autonomy, 805 - Work Support, 811 - Pride, 810 - Job Performance
Goals, 814 - Work Repetition, and 817 - Advancement/Recognition;

the employees' perceptions towards job complexity, job autonomy, performance standards and job goals can be discussed. From Table 2 mean values for each factor included in Module Two are:

V812 = 5.234   V810 = 4.745

V813 = 4.710   V814 = 3.750

V805 = 4.271   V817 = 3.894

V811 = 5.399

The mean value of 5.234 for factor 812 - (Task Characteristics) indicates that employees are satisfied with the content of their jobs. They consider their jobs as significant, contributing to others in a positive way and feel that assigned tasks can be finished once started. Although employees are satisfied with job content two specific perceptions warrant additional discussion. Item 22 and item 26 address the issue of performance feedback. Item 22 asks . . . "To what extent are you able to determine how well you are doing your job without feedback from anyone else?" The mean value for item 22 is 4.557 which indicates the employees can only moderately determine their performance without feedback. Item 26 asks if the employees' job allows him/her to know if they did a good job and be responsible for that job. The mean value for item 26 is 4.835 which implies that only to a fairly large extent can the employee gauge his/her own performance. Addressing these two items in relation to what has already been said about internal communication the writer concludes that improvement of existing communication vehicles is desired. Not only are the one-to-one and group communications

important but also the employees' desire a method of determining
for themselves what their performance is.

Factor 813 - (Task Autonomy) has a mean value of 4.710 and
covers items 20, 21, 30 and 31. The value of 4.710 implies
employees want a greater degree of freedom in how they perform
their work. The degree of autonomy in task accomplishment may
not be possible because of the rules and regulations existing
within a bureaucratic structure. Perhaps by both the supervisor
and the employee becoming more knowledgeable of why the various
procedures are required a better understanding leading to more
acceptance will result. Again, communications appear to be the
starting point for contributing to improving the perceptions
within this factor.

Work Support, (factor 805), includes three items, 23, 24 and
25. Overall the mean value of 4.271 is considered as a
satisfactory response. The employees feel that their additional
duties, reference materials, equipment and work space are
adequate and do not interfere with accomplishing their work.

Next, factor 811 - (Pride) has a mean value of 5.399 and
addresses only two items, numbers 32 and 46. The mean values for
each item (32 = 5.620 and 46 = 5.177) implies that employees take
pride in the performance of their assigned tasks.

Factor 810 - (Job Performance Goals) has a mean value of
4.745 and within this factor five items are askeu. The items
deal with goal clarity and difficulty in accomplishing goals.
Review of the mean values for each question indicates that

employees perceive their job performance goals as reasonable and attainable.

The last two factors 814 - (Work Repetition) and 817 - (Advancement/Recognition) have the lowest mean values of any factors in Module Two. Although the mean value for 814 - Work Repetition is 3.750, it is not considered to be a problem area. The value of 3.750 indicates that the work being performed is varied and interesting. The employees do not perceive their work as repetitive and uninteresting. Finally, the remaining factor 817 - (Advancement/Recognition) of Module Two has a mean value of 3.894. This factor contains five items, 41, 43, 44, 46 and 47. Item 41 asks . . . To what extent are you aware of promotion/advancement opportunities that affect you? The employees' responses to this item resulted in a mean value of 3.705 which implies that very little information regarding employment opportunities is made available to employees. For the most part the promotion system is not within the scope of DEE responsibility; therefore this mean value is considered acceptable. Item 43 addresses the availability of career opportunities. Here the mean value of 3.587 is considered unacceptable because of the motivation associated with this response. Having a low value response to the perceived availability of career opportunities requires management to motivate employees by satisfying their needs other than by promotions. How successful management is in their attempts is directly dependent on how well they recognize the existence of

these other needs. Item 44 asks . . . To what extent are you being prepared to accept increased responsibility? The employees' responses to this item resulted in a mean value of 4.632 which implies that on the average employees perceive that they are being prepared to accept *increased responsibility*. Item 46 asks . . . To what extent do people who perform well receive recognition? Here the mean value is 3.688 and is considered unacceptable because of the motivation associated with this level of response. By not maintaining a perceived high level of recognition employees are dissatisfied and decrease their efforts to perform. Item 47 asks . . . To what extent do you have the opportunity to learn skills which will improve your promotion potential? The mean value for this response is 3.727. The employee's response implies that they perceive a moderate degree of learning any new skills that can be used in future promotions.

Module Three - (Job Desires), covers factor 806 - (Need for Enrichment Index). Under this module the mean value is 5.743 which implies that the respondents want more freedom in performing their work, they desire to use their skills and want to perform a variety of work. In addition they desire a job that is meaningful and contributes to personal growth.

Next, Module Four - (Supervision), covers factors 818 - (Management/Supervision) and 819 - (Supervisory Communications Climate). The mean value for factor 818 is 5.228 which indicates that the employees perceive their supervisors as adequate supervisors. Factor 819 - (Supervisory Communications Climate)

has a mean value of 4.816. Items (and associated responses) driving this value are as indicated earlier in the discussion of Module One and items 13 and 14.

Module Five - (Work Group Effectiveness) is factor 821. The mean value for this factor is 5.665. This value indicates that employees perceive their effectiveness as a group as slightly better than satisfactory. The employees further qualify their perceptions by their response to item 79. The mean value of 5.910 for this item indicates that the employees perceive themselves as having compatibility and capability to perform well under pressure.

Module Six - (Organizational Climate) is represented by two factors, 820 - (Organizational Communications Climate) and 824 - (General Organizational Climate). The mean value for factor 820 is 4.771 which indicates that some improvements are required. The mean values for each of the items (Q) included in factor 820 are:

Q82 = 4.372	Q85 = 5.139
Q83 = 4.570	Q86 = 4.367
Q84 = 4.646	Q91 = 4.797

The mean value for these items indicate that improvements in the area of internal communications are required. Although employees slightly agree that important events are adequately communicated, there are deficiencies in other areas. The deficiencies appear to center around the communications directly involved with the performance of one's work. Clearly this is an

area that management must address in order to improve the performance and productivity of their employees. Factor 824 - (General Organizational Climate) has a mean value of 4.926 and contains 10 items. The items and their associated mean values are:

Q87	= 4.304	Q93	= 4.718
Q88	= 4.443	Q94	= 5.038
Q89	= 5.405	Q95	= 4.846
Q90	= 6.177	Q97	= 5.646
Q92	= 4.667	Q98	= 4.076

Starting with item 98, . . . My organization rewards individuals based on performance and its mean value of 4.076 indicates it is clear that some changes are required to the current reward system. In addition, the responses to items 89 and 90 indicate a high degree of worth currently exists among employees. Although employees are mission oriented they require the recognition to achieve an even higher level of performance. This area is also considered as one where management should concentrate its efforts when addressing changes.

Finally, the last module to be discussed is Module Seven - (Job Related Satisfaction). This module contains 9 items and is covered by factor 822. The items associated with factor 822, together with their mean values are:

Q101	= 5.430	Q107	= 5.658
Q102	= 5.316	Q108	= 4.734
Q103	= 5.321	Q109	= 5.545
Q106	= 5.456		

For the most part all responses are considered satisfactory but item 108 requires some additional discussion. The response to this item indicates that employees desire skills which will benefit them in future jobs but are not being afforded those opportunities. Perhaps this is a result of the constraints of the work environment and the degree of freedom allowed in the performance of their work. Again this can be considered by management when addressing changes for improvement.

CONCLUSIONS

This study used the attitudinal responses of RPMA employees to examine the critical factors affecting performance and productivity in an engineering/design environment. The OAP provides the vehicle to assess the Organizational Climate of the RPMA organization. By analyzing the seven modules of the OAP critical factors which contribute to Organizational Climate were identified. Module One of the OAP provided the demographic information on the population. In addition, the responses to items in Module One indicate the degree of group meeting effectiveness. Although group meetings are adequate for communicating organizational events the employees perceive a need for more direct communication with their immediate supervisors. Also, there is a perceived need for increasing two-way communication within the work environment. Module Two of the OAP indicates that employees, for the most part, are satisfied with structuring of their jobs. There is a perceived need to increase

job autonomy but within the context of RPMA environment this may not be possible. Further, employees want to know of job opportunities but since this is a function of the Civilian Personnel Office changes to current procedures in this area also may not be possible. In Module Three, employee responses indicate their desire to perform meaningful work. By being able to relate their job performance to improvements within the work place or other agencies, employees perceive a greater worth in their performance. Module Four gave rise to two critical factors that are considered as contributing to employee performance and productivity - Supervision and Supervisory Communication Skills. Employees, while perceiving their supervisors as adequate, perceive the need for more one-on-one communication. This one-on-one communication should center around the periodic evaluation of employee performance in comparison to their peers. Employees expressed their desires for feedback in this area. Responses to Module Five resulted in employees perceiving compatibility and capability of their work group. The implication here is employees are satisfied with their contributions and the contributions of others towards accomplishing the assigned work. Review of Module Six also indicates the need for increased communications. In this module employees perceive that recognition for performing well must be communicated. Employees perceived themselves as worthy individuals but lack the proper recognition from their supervisors. The last module, Module Seven, indicates that the

66

employees are generally satisfied with their jobs. However, there are indications that employees question the applicability of their learned skills outside the RPMA environment. Employees are in question as to what skills they are actually learning.

RECOMMENDATIONS

The writer feels that the perceptions of the RPMA employees towards the Organizational Climate of their work environment play a major role in the overall level of performance and productivity achieved. Without some method or management tool, such as the OAP, to assess these employee perceptions, management's efforts to improve the work environment may fall short. As pointed out in Chapter Two not only must management be concerned with increasing the motivation of the employee but also must consider the context in which this motivation can be increased. Only through application of a survey instrument having the validity, reliability and utility of measuring motivation or other perceptions can management gauge what the context of the work environment is (as perceived by the employees within it). The writer feels that by initial application of the OAP a measure or base of employee perceptions has been obtained. Through statistical analysis of these perceptions, conclusions can be drawn to formulate recommendations for improving the effectiveness of the organization. The writer recommends the following actions be taken to benefit from this study:

1.   All levels of management within the RPMA organization should be made aware of the study results. Formal discussions with the primary objective of improving management and supervision should be encouraged within each level of management to generate ideas in these areas.

2.   A communication network, consisting of informal and formal review sessions with subordinate employees, should be established. The sessions will increase the effectiveness of the supervisor in managing those human resources assigned to him and establish the one-to-one relationship with the employee. These sessions should occur with some frequency to allow for supervisor assessment and employee assessment of the caliber of work being performed. The objective of establishing this communication network is to maintain and increase unit cohesiveness and thereby improve performance and productivity.

3.   Due to the make-up of the RPMA workforce, management and supervision skills/techniques must be tailored to those employees involved. Because the manager/supervisor must be able to satisfy various needs he/she must be made aware of how the differing populations view their work environment and themselves. The manager/supervisor, through formal training in skills of motivation, can then apply the learned skills in an effective and productive manner.

4.   The reward system requires adjustment in order for the employees to perceive that it does in fact recognize above average performance. Whether the rewards are monetary or just

formal recognition, recognition must be accomplished in a manner that presents the highest possible visibility. Not only will this be perceived as proper recognition by the recipient and his/her peers but it also will provide an added degree of incentive for others to attempt the same recognition.

5. Prior to attempting any changes with the work environment, some measure of the employees' attitudes must be made. This measure then serves as the basis from which to measure the results of the change. In order for a change to be constructive, management must accept proven instruments of measure and apply them together with their judgement and experience to the extent required within the organization.

6. Finally, by becoming more people-conscious, more aware of what is driving the employee to perform and by having the willingness to accept a self-assessment of one's strengths and weaknesses, management and supervisors can enhance the quality of the work environment leading to increased performance and productivity from their employees and themselves.

APPENDIX A

ORGANIZATIONAL ASSESSMENT PACKAGE

PRIVACY ACT STATEMENT

In accordance with D.O.D. Directive 5400.11, Personal Privacy and Rights of Individuals Regarding Their Personnel Records, the following information about this survey is provided:

    a.   <u>Authority</u>: 10 U.S.C., 131.

    b.   <u>Principal Purpose</u>: The survey is being conducted to assess your organization from a leadership and management perspective.

    c.   <u>Routine Uses</u>: Information provided by respondents will be treated confidentially. The averaged data will be used for organizational strength and weakness identification and research and development purposes.

    d.   <u>Participation</u>: Response to this survey is voluntary. Your cooperation in this effort is appreciated.

[PLEASE DO NOT TEAR, MARK ON, OR OTHERWISE DAMAGE THIS BOOKLET]

GENERAL INFORMATION

The leaders of your organization are genuinely interested in
improving conditions within their areas of responsibility. Their
goals include providing a more satisfying Air Force way of life
and increasing organizational effectiveness. One method of
reaching these goals is by continual refinement of Air Force
management processes. Areas of concern include job related
issues such as leadership and management; training and
utilization; motivation of and concern for people; and the
communication process.

This survey is intended to provide a means of identifying areas
within your organization needing emphasis. There are questions
about your job, work group, supervisor, and organization. THIS
IS NOT A TEST. There are no right or wrong answers. For the
results to be useful, it is important that you respond to each
statement thoughtfully, honestly, and candidly as possible.
Please use the enclose reponse sheet, since we reuse the survey
booklets.

Your responses will be processed by automated equipment at Air
University. INDIVIDUAL RESPONSES REMAIN CONFIDENTIAL.
Individual responses are processed by Leadership and Management
Development Center (LMDC) personnel ONLY and will NOT be
available to anyone in your organization or on your base.
Responses are combined with those of a great many other
individuals for organizational and Air Force-wide studies using
computer generated statistical procedures.

KEY WORD DEFINITIONS

The following should be considered as key words throughout the
survey:

-- Supervisor: The person to whom you report directly.

-- Work Group: All persons who report to the same
                 supervisor that you do.

-- Organization: Your squadron. However, if you work in
                 staff/support agencies, the division
                 or directorate would be your organization.

INSTRUCTIONS

1. All statements may be answered by filling in the appropriate spaces on the response sheet provided. If you do not find a response that fits your case exactly, use the one that is closest to the way you feel.

2. Be sure that you have completed Section 1 of the response sheet before beginning Section 2.

3. Please use a No. 2 medium, black lead pencil provided, and observe the following:

    -- Make heavy black marks that fill the spaces.

    -- Erase cleanly any responses you wish to change.

    -- Make no stray markings of any kind on the response sheet.

    -- Do not staple, fold or tear the response sheet.

    -- Do not make any markings on the survey booklet.

4. The response sheet has a 0-7 scale. The survey statements normally require a 1-7 response. Use the zero (0) response only if the statement truly does not apply to your situation. Statements are responded to by marking the appropriate space on the response sheet as in the following example:

    Using the scale below, evaluate the sample statement.

    1 - Strongly disagree   5 = slightly agree
    2 - Moderately disagree   6 = Moderately agree
    3 = Slightly disagree   7 = Strongly agree
    4 - Neither agree nor disagree

<u>Sample Statement.</u> The information your work group receives from other work groups is helpful.

If you moderately agree with the sample statement, you would blacken the oval (6) on the response sheet.

                          NA
<u>Sample Response:</u> (0) (1) (2) (3) (4) (6) (7)

5. Please respond to the survey statements as they pertain to your current assignment and job.

6. When you have completed the survey, seal the booklet and response sheet in the envelope and return the survey materials to your office coordinator.

BACKGROUND INFORMATION

This section of the survey concerns your background. The information requested is to insure that the groups you belong to are accurately represented and not to identify you as an individual. Please use the separate response sheet and darken the oval which corresponds to your response to each question.

1.   Total years in the Air Force.

    1.   Less than 1 year.
    2.   More than 1 year, less than 2 years.
    3.   More than 2 years, less than 3 years.
    4.   More than 3 years, less than 4 years.
    5.   More than 4 years, less than 8 years.
    6.   More than 8 years, less than 12 years.
    7.   More than 12 years.

2.   Total months in present career field.

    1.   Less than 1 month.
    2.   More than 1 month, less than 6 months.
    3.   More than 6 months, less than 12 months.
    4.   More than 12 months, less than 18 months.
    5.   More than 18 months, less than 24 months.
    6.   More than 24 months, less than 36 months.
    7.   More than 36 months.

3.   Total months at this station:

    1.   Less than 1 month.
    2.   More than 1 month, less than 6 months.
    3.   More than 6 months, less than 12 months.
    4.   More than 12 months, less than 18 months.
    5.   More than 18 months, less than 24 months.
    6.   More than 24 months, less than 36 months.
    7.   More than 36 months.

4.   Total months in present position:

    1.   Less than 1 month.
    2.   More than 1 month, less than 6 months.
    3.   More than 6 months, less than 12 months.
    4.   More than 12 months, less than 18 months.
    5.   More than 18 months, less than 24 months.
    6.   More than 24 months, less than 36 months.
    7.   More than 36 months.

5. Your Ethnic Group is:

    1. American Indian or Alaskan Native
    2. Asian or Pacific Islander
    3. Black, not of Hispanic Origin
    4. Hispanic
    5. White, not of Hispanic Origin
    6. Other

6. Your highest education level attained is:

    1. Non-high school graduate
    2. High school graduate or GED
    3. Less than two years college
    4. Two years or more college
    5. Bachelors Degree
    6. Masters Degree
    7. Doctoral Degree

7. Highest level of professional militaray education (residence or correspondence):

    0. None or not applicable
    1. NCO Orientation Course or USAF Supervisor Course (NCO Phase 1 or 2)
    2. NCO Leadership School (NCO Phase 3)
    3. NCO Academy (NCO Phase 4)
    4. Senior NCO Academy (NCO Phase 5)
    5. Squadron Officer School
    6. Intermediate Service School (i.e., ACSC, AFSC)
    7. Senior Service School (i.e., AWC, ICAF, NWC)

8. How many people do you directly supervise?

    1. None   4. 3
    2. 1   5. 4 to 5
    3. 2   6. 6 to 8
                      7. 9 or more

9. For how many people do you write performance reports?

    1. None   4. 3
    2. 1   5. 4 to 5
    3. 2   6. 6 to 8
                      7. 9 or more

10. Does your supervisor actually write your performance reports?

    1. Yes   2. No   3. No sure

11. Which of the following "best" describes your marital status?

   0. Not married
   1. Married: Spouse is a civilian employed outside home.
   2. Married: Spouse is a civilian employed outside home-geographically separated.
   3. Married: Spouse not enployed outside home.
   4. Married: Spouse not employed outside home-geographically separated.
   5. Married: Spouse is a military member.
   6. Married: Spouse is a military member-geographically separated.
   7. Single Parent.

12. What is your usual work schedule?

   1. Day shift, normally stable hours.
   2. Swing shift (about 1600-2400).
   3. Mid shift (about 2400-0800).
   4. Rotating shift schedule.
   5. Day or shift work with irregular/unstable hours.
   6. Frequent TDY/travel or frequently on-call to report to work.
   7. Crew schedule.

13. How often does your supervisor hold group meetings?

1.	Never	4.	Weekly
2.	Occasionally	5.	Daily
3.	Monthly	6.	Continuously

14. How often are group meetings used to solve problems and establish goals?

1.	Never	3.	About half the time
2.	Occasionally	4.	All of the time

15. What is your aeronautical rating and current status?

1. Nonrated, not on aircrew		3. Rated, in crew/operations job
2. Nonrated, now on aircrew		4. Rated, in support job

16. Which of the following best describes your career or employment intentions?

   1. Planning to retire in the next 12 months.
   2. Will continue in/with the Air Force as a career.
   3. Will most likely continue in/with the Air Force as a career.
   4. May continue in/with the Air Force.
   5. Will most likely not make the Air Force a career.
   6. Will separate/terminate from the Air Force as soon as possible.

JOB INVENTORY

Below are items which relate to your job. Read each statement
carefully and then decide to what extent the statement is true of
your job. Indicate the extent to which the statement is true for
your job by choosing the phrase which best represents your job.

    1 = Not at all   5 = To a fairly large extent
    2 = To a very little extent 6 = To a great extent
    3 = To a little extent   7 = To a very great extent
    4 = To a moderate extent

Select the corresponding number for each question and enter it on
the separate response sheet.

17. To what extent does your job require you to do many different
    things, using a variety of your talents and skills?

18. To what extent does your job involve doing a <u>whole</u> task or
    unit or work?

19. To what extent is your job significant, in that it affects
    others in some important way?

20. To what extent does your job provide a great deal of freedom
    and independence in scheduling your work?

21. To what extent does your job provide a great deal of freedom
    and independence in selecting your own procedures to accom-
    plish it?

22. To what extent are you able to determine how well you are
    doing your job without feedback from anyone else?

23. To what extent do <u>additional duties</u> interfere with the per-
    formance of your primary job?

24. To what extent do you have adaquate tools and equipment to
    accomplish your job?

25. To what extent is the amount of work space provided adequate?

26. To what extent does your job provide the chance to know for
    yourself when you do a good job, and to be responsible for
    your own work?

27. To what extent does doing your job well affect a lot of
    people?

28. To what extent does your job provide you with the chance to
    finish completely the piece of work you have begun?

```
1 = Not at all                  5 = To a fairly large extent
2 = To a very little extent     6 - To a great extent
3 = To a little extent          7 - To a very great extent
4 = To a moderate extent
```

29. To what extent does your job require you to use a number of complex skills?

30. To what extent does your job give you freedom to do your work as you see fit?

31. To what extent are you allowed to make the major decisions required to perform your job well?

32. To what extent are you proud of your job?

33. To what extent do you feel accountable to your supervisor in accomplishing your job?

34. To what extent do you know exactly what is expected of you in performing your job?

35. To what extent are your job performance goals difficult to accomplish?

36. To what extent are your job performance goals clear?

37. To what extent are your job performance goals specific?

38. To what extnet are your job performance goals realistic?

39. To what extent do you perform the same tasks repeatedly within a short period of time?

40. To what extent are you faced with the same type of problem on a weekly basis?

41. To what extent are you aware of promotion/advancement opportunities that affect you?

42. To what extent do co-workers in your work group maintain high standards of performance?

43. To what extent do you have the opportunity to progress up your career ladder?

44. To what extent are you being prepared to accept increased responsibility?

45. To what extent do people who perform well receive recognition?

46. To what extent does your work give you a feeling of pride?

1 = Not at all   5 = To a fairly large extent
2 = To a very little extent   6 = To a great extent
3 = To a little extent   7 = To a very great extent
4 = To a moderate extent

47. To what extent do you have the opportunity to learn skills which will improve your promotion potential?

48. To what extent do you have the necessary supplies to accomplish your job?

49. To what extent do details (tasks not covered by primary or additional duty descriptions) interfere with the performance of your primary job?

50. To what extent does a bottleneck in your organization seriously affect the flow of work either to or from your group?

JOB DESIRES

The statements below deal with job related characteristics. Read each statement and choose the response which best represents how much you would like to have each characteristic in your job.

In my job, I would like to have the characteristics described:

1 = Not at all   5 = A large amount
2 = A slight amount   6 = A very large amount
3 = A moderate amount   7 = An extremely large amount
4 = A fairly large amount

51. Opportunities to have independence in my work.

52. A job that is meaningful.

53. An opportunity for personal growth in my job.

54. Opportunities in my work to use my skills.

55. Opportunities to perform a variety of tasks.

56. A job in which tasks are repetitive.

57. A job in which tasks are relatively easy to accomplish.

SUPERVISION

The statements below describe characteristics of managers or
supervisors. Indicate your agreement by choosing the phrase
which best represents your attitude concerning your supervisor.

    1 = Strongly disagree   5 = Slightly agree
    2 = Moderately disagree   6 = Moderately agree
    3 = Slightly disagree   7 = Strongly agree
    4 = Neither agree nor disagree

Select the corresponding number for each statement and enter it
on the separate response sheet.

58. My supervisor is a good planner.

59. My supervisor sets high performance standards.

60. My supervisor encourages teamwork.

61. My supervisor represents the group at all times.

62. My supervisor establishes good work procedures.

63. My supervisor has made his responsibilities clear to
    the group.

64. My supervisor fully explains procedures to each group
    member.

65. My supervisor performs well under pressure.

66. My supervisor takes time to help me when needed.

67. My supervisor ask members for their ideas on task
    improvements.

68. My supervisor explains how my job contributes to the
    overall mission.

59. My supervisor helps me set specific goals.

70. My supervisor lets me know when I am doing a good job.

71. My supervisor lets me know when I am doing a poor job.

72. My supervisor always helps me improve my performance.

73. My supervisor insures that I get job related training
    when needed.

74. My job performance has improved due to feedback received
    from my supervisor.

75. When I need technical advice, I usually go to my supervisor.

76. My supervisor frequently gives me feedback on how well I am doing my job.

WORK GROUP PRODUCTIVITY-

The statements below deal with the output of your work group. The term "your work group" refers to you and your co-workers who work for the same supervisor. Indicate your agreement with the statement by selecting the phrase which best expresses your opinion.

1 = Strongly disagree   4 = Neither agree nor disagree
2 = Moderately disagree   5 = Slightly agree
3 = Slightly disagree   6 = Moderately agree
    7 = Strongly agree

Select the corresponding number for each statement and enter it on the separate response sheet.

77. The quantity of output of your work group is very high.

78. The quality of output of your work group is very high.

79. When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.

80. Your work group always gets maximum output from available resources (e.g., personnel and material).

81. Your work group's performance in comparison to similar work groups is very high.

ORGANIZATION CLIMATE

Below are items which describe characteristics of your organization. The term "your organization" refers to your squadron or staff agency. Indicate your agreement by choosing the phrase which best represents your opinion concerning your organization.

1 = Strongly disagree   5 = Slightly agree
2 = Moderately disagree   6 = Moderately agree
3 = Slightly disagree   7 = Strongly agree
4 = Neither agree nor disagree

Select the corresponding number for each item and enter it on the separate response sheet.

```
1 = Strongly disagree          5 = Slightly agree
2 = Moderately disagree        6 = Moderately agree
3 = Slightly disagree          7 = Strongly agree
4 = Neither agree or disagree
```

82. Ideas developed by my work group are readily accepted by management personnel above my supervisor.

83. My organization provides all the necessary information for me to do my job effectively.

84. My organization provides adequate information to my work group.

85. My work group is usually aware of important events and situations.

86. My complaints are aired satisfactorily.

87. My organization is very interested in the attitudes of the group members toward their jobs.

88. My organization has a very strong interest in the welfare of its people.

89. I am very proud to work for this organization.

90. I feel responsible to my organization in accomplishing this mission.

91. The information in my organization is widely shared so that those needing it have it available.

92. Personnel in my unit are recognized for outstanding performance.

93. I am usually given the opportunity to show or demonstrate my work to others.

94. There is a high spirit of teamwork among my co-workers.

95. There is outstanding cooperation between work groups of my organization.

96. My organization has clear-cut goals.

97. I feel motivated to contribute my best efforts to the mission of my organization.

98. My organization rewards individuals based on performance.

99. The goals of my organization are reasonable.

100. My organization provides accurate information to my work group.

JOB RELATED ISSUES

The items below are used to determine how satisfied you are with specific job related issues. Indicate your degree of satisfaction or dissatisfaction with each issue by choosing the most appropriate phrase.

1 = Extremely dissatisfied   5 = Slightly satisfied
2 = Moderately disssatisfied   6 = Moderately satisfied
3 = Slightly dissatisfied   7 = Extremely satisfied
4 = Neither satisfied nor
     dissatisfied

Select the corresponding number for each question and enter it on the separate response sheet.

101. Feeling of Helpfulness
The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.

102. Co-Worker Relationship
My amount of effort compared to the effort of my co-workers, the extent to which my co-workers share the load, and the spirit of teamwork which exists among my co-workers.

103. Family Attitude Toward Job
The recognition and the pride my family has in the work I do.

104. On-the-Job Training (OJT)
The OJT instructional methods and instructors' competence.

105. Technical Training (Other than OJT)
The technical training I have received to perform my current job.

106. Work Schedule
My work schedule; flexibility and regularity of my work schedule; the number of hours I work per week.

107. Job Security.

108. Acquired Valuable Skills
The chance to acquire valuable skills in my job which prepare me for future opportunities.

109. My job as a Whole.

APPENDIX B

FACTOR AND ITEM CORRELATION

Each 800 series factor consists of two or more variables which
correspond to items in the OAP. A mean score can be derived
for each factor by using a "straight average." The formula for
computing the exceptions is indicated.

FACTOR 800 - SKILL VARIETY

VARIABLE NUMBER	ITEM NUMBER	ITEM
201	17	To what extent does your job require you to do many different things using a variety of your talents and skills?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 801 - TASK IDENTITY

VARIABLE NUMBER	ITEM NUMBER	ITEM
202	18	To what extent does your job involve doing a whole task or unit of work?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?

FACTOR 802 - TASK SIGNIFICANCE

VARIABLE NUMBER	ITEM NUMBER	ITEM
203	19	To what extent is your job significant in that it affects others in some important way?
210	27	To what extent does doing your job well affect a lot of people?

FACTOR 804 - JOB FEEDBACK

VARIABLE NUMBER	ITEM NUMBER	ITEM
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?

FACTOR 805 - WORK SUPPORT

VARIABLE NUMBER	ITEM NUMBER	ITEM
206	23	To what extent do additional duties interfere with the performance of your primary job?
207	24	To what extent do you have adequate tools and equipment to accomplish your job?
208	25	To what extent is the amount of work space provided adequate?

$$(FORMULA = \frac{8 - 206 + 207 + 208}{3})$$

FACTOR 806 - NEED FOR ENRICHMENT INDEX (JOB DESIRES)

VARIABLE NUMBER	ITEM NUMBER	ITEM

(In my job, I would like to have the characteristics described -- from "not at all" to "an extremely large amount".)

249	51	Opportunities to have independence in my work.

VARIABLE NUMBER	ITEM NUMBER	ITEM
250	52	A job that is meaningful.
251	53	The opportunity for personal growth in my job.
252	54	Opportunities in my work to use my skills.
253	55	Opportunities to perform a variety of tasks.

FACTOR 810 - JOB PERFORMANCE GOALS

VARIABLE NUMBER	ITEM NUMBER	ITEM
217	34	To what extent do you know exactly what is expected of you in performing your job?
218	35	To what extent are your job performance goals difficult to accomplish?
273	36	To what extent are your job performance goals clear?
274	37	To what extent are your job performance goals specific?
221	38	To what extent are your job performance goals realistic?

FACTOR 811 - PRIDE

VARIABLE NUMBER	ITEM NUMBER	ITEM
215	32	To what extent are you proud of your job?
275	46	To what extent does your work give you a feeling of pride?

FACTOR 812 - TASK CHARACTERISTICS

VARIABLE NUMBER	ITEM NUMBER	ITEM
201	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
202	18	To what extent does your job involves doing a whole task or unit of work?
203	19	To what extent is your job significant in that it affects others in some important way?
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
210	27	To what extent does doing your job well affect a lot of people?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 813 - TASK AUTONOMY

VARIABLE NUMBER	ITEM NUMBER	ITEM
270	20	To what extent does your job provide a great deal of freedom and independence in scheduling your work?

VARIABLE NUMBER	ITEM NUMBER	ITEM
271	21	To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
213	30	To what extent does your job give you freedom to do your work as you see fit?
214	31	To what extent are you allowed to make the major decisions required to perform your job well?

FACTOR 814 - WORK REPETITION

VARIABLE NUMBER	ITEM NUMBER	ITEM
226	39	To what extent do you perform the same tasks repeatedly within a short period of time?
227	40	To what extent are you faced with the same type of problem on a weekly basis?

FACTOR 816 - DESIRED REPETITIVE EASY TASKS

VARIABLE NUMBER	ITEM NUMBER	ITEM
255	56	A job in which tasks are repetitive.
258	57	A job in which tasks are relatively easy to accomplish.

FACTOR 817 - ADVANCEMENT/RECOGNITION

VARIABLE NUMBER	ITEM NUMBER	ITEM
234	41	To what extent are you aware of promotion/advancement opportunities that affect you?
239	43	To what extent do you have the opportunity to progress up your career ladder?
240	44	To what extent are you being prepared to accept increased responsibility?
241	46	To what extent do people who perform well receive recognition?
276	47	To what extent do you have the opportunity to learn skills which will improve your promotion potential?

FACTOR 818 - MANAGEMENT/SUPERVISIONS

VARIABLE NUMBER	ITEM NUMBER	ITEM
404	58	My supervisor is a good planner.
405	59	My supervisor sets high performance standards.
410	60	My supervisor encourages teamwork.
411	61	My supervisor represents the group at all times.
412	62	My supervisor establishes good work procedures.
413	63	My supervisor has made his responsibilities clear to the group.

VARIABLE NUMBER	ITEM NUMBER	ITEM
416	65	My supervisor fully explains procedures to each group member.
		My supervisor performs well under pressure.

FACTOR 819 - SUPERVISORY COMMUNICATIONS CLIMATE

VARIABLE NUMBER	ITEM NUMBER	ITEM
426	67	My supervisor asks members for their ideas on task improvements.
428	68	My supervisor explains how my job contributes to the overall mission.
431	69	My supervisor helps me set specific goals.
433	70	My supervisor lets me know when I am doing a good job.
435	72	My supervisor always helps me improve my performance.
436	73	My supervisor insures that I get job related training when needed.
437	74	My job performance has improved due to feedback received from my supervisor.
442	76	My supervisor frequently gives me feedback on how well I am doing my job.

FACTOR 820 - ORGANIZATIONAL COMMUNICATIONS CLIMATE

VARIABLE NUMBER	ITEM NUMBER	ITEM
300	82	Ideas developed by my work group are readily accepted by management personnel above my supervisor.
301	83	My organization provides all the necessary information for me to do my job effectively.
302	84	My organization provides adequate information to my work group.
303	85	My work group is usually aware of important events and situations.
304	86	My complaints are aired satisfactorily.
309	91	The information in my organization is widely shared so that those needing it have it available.

FACTOR 821 - WORK GROUP EFFECTIVENESS

VARIABLE NUMBER	ITEM NUMBER	ITEM
259	77	The quantity of output of your work group is very high.
260	78	The quality of output of your work group is very high.
261	79	When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.
264	80	Your work group always gets maximum output from available resources (e.g., personnel and material).
265	81	Your work group's performance in comparison to similar work groups is very high.

FACTOR 822 - JOB RELATED SATISFACTION

VARIABLE NUMBER	ITEM NUMBER	ITEM
705	101	**Feeling of Helpfulness** The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.
709	102	**Co-worker Relationships** My amount of effort compared to the effort of my co-workers, the extent to which my co-workers share the load, and the spirit of teamwork which exists among my co-workers.
710	103	**Family Attitude Toward Job** The recognition and the pride my family has in the work I do.
717	106	**Work Schedule** My work schedule; flexibility and regularity of my work schedule; the number of hours I work per week.
718	107	**Job Security**
719	108	**Acquired Valuable Skills** The chance to acquire valuable skills in my job which prepare me for future opportunities.
723	109	**My Job as a Whole**

FACTOR 824 - ORGANIZATIONAL CLIMATE

VARIABLE NUMBER	ITEM NUMBER	ITEM
305	87	My organization is very interested in the attitudes of the group members toward their job.
306	88	My organization has a very strong interest in the welfare of its people.
307	89	I am very proud to work for this organization.
308	90	I feel responsible to my organization in accomplishing its mission.
310	92	Personnel in my unit are recognized for outstanding performance.
311	93	I am usually given the opportunity to show or demonstrate my work to others.
312	94	There is a high spirit of teamwork among my co-workers.
313	95	There is outstanding cooperation between work groups of my organization.
315	97	I feel motivated to contribute my best efforts to the mission of my organization.
316	98	My organization rewards individuals based on performance.

BIBLIOGRAPHY

Bell, C. R. (1982, February). Energize Your Staff to Improve
    Productivity. Management Review, pp. 46-51.

Bolt, J. F., & Rummler, G. L. (1982, January). How To Close
    The Gap In Human Performance. Management Review,
    pp. 38-44.

Dunnette, M. D., & Fleishman, E. A. (1982). Human Performance
    and Productivity (1st ed.). Hillsdale, New Jersey: Lawrence
    Erlbaum Associates, Inc.

French, W. L. (1982). The Personnel Ma   gement Process
    (5th ed.). University of Washingto   Houghton Mifflin
    Company.

Gibson, J. L., Ivancevich, J. M., & Don.   iy, J. H. (1982).
    Organizations (4th ed.). Plano, Texas: Business
    Publications, Inc.

Grant, P. C. (1981, August). How to Manage Employee Job
    Performance. Personnel Administrator, pp. 59-65.

Hendrix, W. H., & Halverson, V. B. (1979). Organizational
    Survey Assessment Package for Air Force Organizations (Report
    No. AFHRL-TR-78-93). Brooks Air Force Base, Tex.:
    Occupation and Manpower Research Division, Air Force Human
    Resources Laboratory, Air Force Systems Command.

Hightower, J. M. (1982). Temporal Stability of the Factor
    Structure of the Organizational Assessment Package (Report
    No. LMDC-TR-82-2). Maxwell Air Force Base, AL.: Leadership
    and Management Development Center, Air Training Command.

Lawler, E. E. (1973). Motivation in Work Organizations
    (1st ed.). Belmont, California: Wadsworth Publishing Co.

Litwin, G. H., & Stringer, R. A. (1968). Motivation and
    Organizational Climate (1st ed.). Division of Research,
    Graduate School of Business Administration, Harvard
    University.

96

CONTINUED

Mahr, T. A. (1982). Manual for the Organizational Assessment
    Package Survey (Report No. 82-1560). Maxwell Air Force Base,
    AL: Air Command and Staff College, Air Training Command.

McAfee, R. B., & Poffenberger, W. (1982). Productivity
    Strategies (1st ed.). Englewood Cliffs, New Jersey:
    Prentice-Hall.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., &
    Bent, D. H. (1975). Statistical Package for the Social
    Sciences (2nd ed.). USA: McGraw-Hill.

Sailer, A. J. (1983, January-February). The SARPMA Story.
    The Military Engineer, pp. 35-38.

Short, L. O., & Hamilton, K. L. An Examination of the
    Reliability of the Organizational Assessment Package
    (LMDC-TR-81-2). Maxwell AFB, AL: Leadership and Management
    Development Center, 1981.

Short, L. O., & Wilkerson, D. A. An Examination of the Construct
    Validity of the Organizational Assessment Package.
    Proceedings of the 23rd Annual Conference of the Military
    Testing Association. (Vol II, pp. 1089-1098). Arlington,
    VA: U.S. Army Research Institute, 1981.